Computer Associates

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Ron Miller, Esq.
Director of Trial Court Management
Division of State Court Administration
115 West Washington Street, Suite 1080
Indianapolis, Indiana 46204

RE: Public Notice of Contracting Opportunities Dated December 20, 2001

Dear Mr. Miller:

Thank you for providing Computer Associates International, Inc. ("CA") the opportunity to respond to your above referenced Contracting Opportunity. As the world's leading independent software and services supplier, CA welcomes the opportunity to provide software products and services responsive to your needs. Accordingly, we are pleased to submit our attached proposal.

Even though the precise scope of work will be defined at later stages in the selection process, CA is fully responding to the following contracting opportunities.

- CMS Provider
- Data Warehouse Provider
- Ancillary Services / Project Management Provider (“ASPM”)

CA also anticipates working closely with whom ever the Division of State Court Administration of the Supreme Court of Indiana (“Division”) selects as the Network / Connectivity Provider.

Before you review of our PNCO response document, we would like to briefly outline why CA is the best possible choice to deliver the solution for this critical application environment. Beyond the technology approach described in our response, we believe our unique qualifications extend beyond the core functions associated with a case management system (“CMS”). They include:

- State & Local Government Experience
- Proven Technology
- Effective Process & Project Management
- Fixed Price
- Case Management System Source Code
- Open Architecture – Open Standards
- Strength of Computer Associates
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Our prescribed technology and solution approach is focused on reducing “risk” for the Division by leveraging CA’s proven technology solutions, industry experience and best practices to achieve a successful CMS system implementation for the Division. Further, we believe our fixed price proposal offers tremendous value for the State which will enable the State to achieve

its fiscal management goals while delivering a state-of-the-art Judicial Case Management System that will help serve justice for its citizens and making Indiana a safer place to live.

State and Local Government Experience

CA Services' Government Practice focuses upon empowering local, state, and federal agencies with appropriate business applications of technology. CA Services prides itself in working with government institutions to help them increase productivity, enhance operations, and attain substantial cost-savings. CA Services' team of experienced professionals includes former appointed and elected government officials who understand the processes, divisions, and operations of local, state, and federal government. CA Services has extensive operations and information systems management background in the Government Sector. CA Services' State and Local Government Practice has the mix of government and technical expertise best able to execute the project described in the PNCO. Our State and Local Government Services Practice Director, Robert Womack, has been a long time consultant to the National Center for State Courts and has played an integral role in judicial information system projects in multiple jurisdictions. As you review the team we have committed to this project, you will find equally experienced and talented individuals with the knowledge required to implement a full-featured 21st Century case management solution.

Proven Technology

Computer Associates approach to delivering the case management system is surrounded with our commercially available off the shelf proven technology, configured to meet the implementation and system management requirements of a statewide solution. Our commitment to innovation is evident throughout our projects, which have garnered numerous industry awards such as the 1997 Lotus Beacon Award for greatest business impact and The Internet Open's 1998 "Best-of-Class" Award for an industry-leading electronic commerce solution. CA Services has also been a key innovator in bringing new technologies to the market including the application of wireless solutions in business environments. Our forward-thinking style is the fuel for delivering accelerated results to our clients. The following elements are part of our full-featured CMS solution.

- A robust ***case management*** system that supports both Criminal and Civil cases and their related financial transactions such as court cost, fines judgments, restitutions, etc.;
- An ***enterprise-class financial*** system that will manage the financial records, receivables, disbursements and financial reporting;
- A leading-edge ***query, analysis and multi-dimensional reporting*** system that will enable better reporting and monitoring capabilities for case management, and provide higher quality information that can be shared with other federal, state, and local authorities to enhance public safety;
- A state-of-the-art ***enterprise infrastructure management*** system that provides comprehensive system security both at the network and application level, that manages the storage of sensitive and confidential information and the overall system health to deliver high performance and quality of service;
- Lifecycle management including both ***entity relationship modeling*** and application ***change and configuration management*** tools so that your case management solution remains relevant and essential for tomorrow.
- An ***application integration*** platform that enables the case management system to be integrated with existing applications on disparate technical system platforms to exchange critical court information.

- An enterprise information ***portal*** coupled with ***advanced content management*** that provides an intuitive, easy-to-use, graphical user interface to deliver personalized and appropriate information to authorized persons in a timely manner.
- CA provides 24 hours a day, 365 days a year support, which is second to none in the software industry. With CA ***premium support*** of the case management system, the Division will have a dedicated team which is familiar with your implementation and ready to work with you to correct any issues.
- Flexible ***education*** with custom planning and course development tailored to the methods that align with the on-going needs of the Division. CA can deliver education via instructor led class room, over the Internet, on CD technology over the portal, train the trainer fashion – all forms of education are available via our professional education services.

Effective Process and Project Management

CA Services offers resources to effectively manage projects throughout the entire life cycle. We manage the process from strategic analysis and planning, business process re-engineering, solution implementation, systems integration, education, knowledge transfer to outsourced facility management. CA Services professionals have the expert knowledge and experience to engineer a service solution targeted to an organization's particular needs and requirements.

CA Services has nearly 4,000 advanced technology consultants and systems engineers in offices across the country and around the world. To meet the needs of the Division, CA Services can provide experienced functional and technical resources from some or all of our offices located throughout the country.

Fixed-Price

CA is committed to deliver the functionality as described in Section 2 on a ***fixed-priced*** basis. This is key to understanding your cost exposure and ensuring your solution partner is equally committed to delivering the CMS in the agreed upon time. CA is positioned to work closely with the Division to deliver a best-in-class CMS to be used as a reference account for our sales and marketing efforts going forward with other states. A fixed-price approach clearly limits the Court's risk in implementing a statewide CMS.**Case Management System Source Code**

In order to further mitigate the Court's risk, a non-exclusive, perpetual license to CMS source code will be granted to the Division of State Court Administration as a part of this Project's deliverables. CA will not, however, support code that has been modified in the field unless specific arrangements have been made to make modified code available to CA Premium Support staff. Such processes are usually specified in a CA Premium Support Agreement, which CA recommends for ongoing support of the CMS product suite once statewide deployment begins.

Open Architecture – Open Standards

To be effective and reliable, CA believes case management systems must be set within a complex of supporting technical and organizational infrastructures. To support evolving IJIS architectures and safeguard vital Judicial Branch prerogatives CMS systems must be:

- Based upon Internet standards, such as TCP/IP.
- Align with prevalent de facto standards, such as Oracle, Visual Basic, Java, and XML.
- Built to support exchange of data by multiple agencies.
- Built upon security standards aligned with NCIC 2000 requirements.
- Built with accountability and security in mind.

- Self-manageable and deployable.

Strength of Computer Associates

Computer Associates International, Inc. (NYSE: CA), in our 25th year and as a recognized world leader in mission-critical business computing that provides software, support, education and integration services in more than 100 countries around the world. CA has over 18,000 employees and had revenue of $6.77 billion in the *fiscal* year ending 2000.

Recognizing swift technological development and the need for expert consultation on the optimum deployment, practice and maintenance of leading-edge technologies, Computer Associates founded their CA Services organization to empower clients with best-of-breed solutions. CA has also received *Fortune Magazine's* second highest ranking for the most admired software companies, according to the March 7, 2000 edition. CA was selected by 10,000 executives, directors and securities analysts based on the following key attributes: innovativeness, quality of management, employee talent, quality of products/services, long-term investment value, financial soundings, social responsibility and use of corporate assets.

Summary

We believe that CA is offering the most skilled, serious minded professional persons, technically advanced software, price sensitive solution, which equates to the lowest risk for implementing a statewide 21st Century CMS for the Division. In the following CA response, we will set forth the particular technology and implementation approach, as well as describe the background experience of various CA professionals that we have selected for your engagement.

We are, of course prepared to discuss and consider additional terms and conditions, not inconsistent with those contained in the Agreement found in Appendix B, to the extent needed to meet your requirements. Upon the successful award of the bid, we would anticipate promptly entering into the Agreement, as well as any mutually satisfactory additions. With respect to the sample set of licensing terms and conditions, also located in Appendix B of our response, we fully expect that upon your acceptance of our bid as the most favorable, we will in a very prompt and mutually satisfactory manner implement the bid award through the execution of a software license agreement and related documentation. With respect to the delivery of professional services, CA requires that the terms and conditions contained in its “Professional Services Agreement” and Statement of Work would represent the entire documentation for each services engagement. Accordingly, we have enclosed a sample copy of these materials for your review. It is our experience over the years that such matters are readily and quickly worked through and we have every confidence that the same result will be achieved in this transaction too.

If you have any questions regarding this proposal or if any supplemental information may be desired, please direct them to: Dan D'Angelo, Computer Associates International Inc., 250 E. 96th Street Suite 420, Indianapolis, Indiana 46240, telephone number 317.705.9221, fax number 317.573.9801, or daniel.d'angelo@ca.com.

Very truly yours,

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Public Notice of Contracting Opportunities

Computer Associates:
The Software That Manages eBusiness™

Prepared for:
Ron Miller, Esq.
Division of State Court Administration
Director of Trial Court Management

Computer Associates™

Table of Contents

Section 1. Contracting Opportunities

This is an Announcement issued by the Division of State Court Administration of the Supreme Court of Indiana (the "Division"). The announcement solicits expressions of interest and information from all persons and entities who wish to be considered as a provider of the services described below. Persons with such an interest are invited to comply with the procedures also described below.

This announcement is the culmination of more than six years of research and planning conducted by the Division through the Automated Information Management System Project ("AIMS"). In recognition of the growing impact of modern computer technology and innovation on the business of the judiciary as evidenced by AIMS, the Indiana Supreme Court created its Judicial Technology and Automation Committee ("JTAC") in 1999. JTAC's charge has been to ". . . develop. . . a long-range strategy for technology and automation in Indiana's judicial system. . . [, including] . . . standards for judicial information case management systems, judicial data processing, electronic filing, deployment and use of judicial information on the Internet, and for all related technologies used in the courts." This Public Notice of Contracting Opportunities ("PNCO") and its included preliminary minimum functionality standards reflect JTAC's commitment to its charge. JTAC believes that a comprehensive Judicial Case Management System ("CMS") will:

- *Allow Indiana trial courts and court clerks to manage their caseloads faster and more cost-effectively;*
- *Provide users of Indiana trial court information, notably law enforcement agencies, state policy makers, and the public, with more timely, accurate, and comprehensive information; and*
- *Reduce the cost of trial court operations borne by Indiana counties.*

The Division envisions a full-featured, state-of-the-art CMS, available to connect all courts and clerks in Indiana with all associated law enforcement, support and administrative organizations. Ideally, the successful vendor(s) will develop or deploy a full-featured CMS, a supportive network and a data warehouse that will work together seamlessly to provide Web-enabled, real-time connectivity and information-sharing to users (ranging from elected officials of the judicial, executive and legislative branches of state government and their employees) who make use of the information for their official duties, to citizens and businesses who seek information for other valid purposes. The ideal CMS will also include a broad range of sub-function modules which integrate all aspects of the operations of the judiciary and provide all persons who have contact with the judicial branch with accurate, real-time information about court proceedings that meets their official or private needs.

The Division, in its efforts to develop a plan for a CMS as a logical progression of the AIMS Project is issuing a preliminary definition of the minimum functionality for CMS products used throughout the state as Appendix A to this document. The information contained in Appendix A is available on the Internet at **www.in.gov/judiciary**, and will form the basis for minimum functionality standards to be adopted by the Division in early 2002. Additional functionality details may be made available later in this proposal process. Starting with the CMS as thus defined, professional services of the type described below are being sought by the Division in order to continue with the development of the project. The Division requests that all persons or entities with an interest in supplying these services as described below submit an expression of such an interest and a statement of qualifications in the manner described below.

It is anticipated that the CMS will be delivered using a customization of existing CMS products. However, with respect to certain discrete project elements, such as network connectivity and central data warehousing, other alternative methodologies may be considered and proposed to the Division. Program management for the CMS is the responsibility of the Division, which will operate with the assistance of its employees, various elected officials, consultants and local governmental units. Other professional service providers may be engaged to provide other professional services, which the Division believes are necessary for the project to succeed. The service areas listed below are primarily utilized for ease of reference and should not be considered definitions or specific assignment of responsibilities. The precise scope of work will be defined at later stages in the selection process:

I. CMS Provider

The Division seeks the services of an established firm to provide a judicial case management system and related services in trial courts throughout the State of Indiana. The successful service provider will combine a full-featured CMS integrated with ancillary modules with training and support services. The successful service provider will be expected to work closely with the Division to customize and plan implementation of the CMS. Among the possible elements of a statewide CMS implementation is the conversion of existing CMS data from legacy systems, integration/interface with other state agencies such as the Bureau of Motor Vehicles, the Indiana State Police, Department of Correction, the Family and Social Service Administration, and various agencies of the Indiana Supreme Court. A CMS must be acceptable to the State Board of Accounts, and must meet other requirements established by the Division as defined further in Appendix A. Although the Division does not presently foresee requiring all courts to adopt a statewide CMS, all submissions for CMS Provider must include cost estimates which assume the installation of the CMS in approximately 300 courts of record spanning all 92 Indiana counties. For the purposes of this cost estimate, training of judges and court staff must be included. Costs for hardware, if provided by the CMS Provider, should be separate from the overall CMS estimate. Submissions under this category are also required to include a proposed roll-out schedule that assumes installation in all 92 Indiana counties. Successful service providers will be required to strictly adhere to the negotiated budgetary levels and meet the scheduled rollout of the CMS beginning on January 1, 2003.

Response: CA's request to be considered as a provider of services in this category is summarized in the transmittal letter, above, and detailed in Sections 2-5, following. Responses to the Branch's Appendix A are contained in Appendix A to this document. Details concerning specific CA CMS technologies offered the Branch in this PNCO can be found in Appendix C, below.

II. Network / Connectivity Provider

The Division seeks the services of an experienced firm to provide recommendations and implementation of connectivity between all trial courts in the state, including rural and metropolitan areas. The objective of the Network/Connectivity Provider is to facilitate full implementation of a CMS, which connects all courts together as well as with various state agencies such as the Bureau of Motor Vehicles, the Indiana State Police, the Department of Correction, the Family and Social Service Administration, agencies of the Indiana Supreme Court, and other public and private institutions to be determined by more detailed planning. The Network/Connectivity Provider will provide options to the Division on the best methods of connectivity in consideration of cost, reliability, bandwidth/system response times and on-going maintenance. The Division believes that use of the existing statewide fiber-optic backbone termination points in each county will be an integral part of the required network; however, this belief may be challenged by a service provider with an innovative solution. All

recommendations must be fully compatible with the CMS, and should provide seamless connectivity between all points of contact. The Network/Connectivity Provider will be expected to work closely and in direct contact with the CMS Provider, and to provide solutions that are consistent with established budgetary levels and in sufficient time to allow for the rollout of the CMS on January 1, 2003, and thereafter on the schedule determined by the Division.

Response: CA's response to this item is summarized in the transmittal letter, above.

III. Data Warehouse Provider

The Division seeks the services of an experienced firm to provide recommendations and implementation of a data warehouse for trial court case and statistical data. The objective of a data warehouse is to provide a centralized repository of information that is accessible by the courts, various state agencies, and the general public. The Data Warehouse Provider will work closely with the Division and the CMS Provider to determine the best system architecture for the data warehouse based on cost, reliability, accessibility of the data, reliability, disaster recovery and cost of on-going maintenance. The successful Data Warehouse Provider must have demonstrated successful prior experience with web-enabled data warehousing, and must be capable of providing customization to system architecture as specified by the Division.

Response: CA's request to be considered as a provider of services in this category is summarized in the transmittal letter, above, and detailed in Section 2. Details concerning specific data warehouse technologies offered the Branch in this PNCO can be found in Appendix C, below.

Ancillary Services / Project Management Provider ("ASPM")

The Division seeks the services of an experienced firm or individual to provide ancillary technical services and assist the Division staff with management of the CMS project. The ASPM must have demonstrated expertise in large-scale technical implementations and must be familiar with CMS products, hardware, network connectivity, and user training.

Response: Response: CA's request to be considered as a provider of services in this category is summarized in the transmittal letter, above. An outline of CA's project management methodology can be found in Section 4.1.

SUBMISSION INFORMATION

Interested firms are invited to respond to this notice through the submission of written materials describing the products and services for which they have an interest in providing, costs estimates, implementation timelines and a statement of the firm's qualifications, including a summarization of the financial viability of the firm. This statement of qualifications should include a concise yet thorough collection of information describing the firm, its relevant skills, experience and any other relevant qualifications. The submission may include any other information that the service provider believes is relevant to the selection process. The submission should identify the key persons to be actually assigned to work on the project and include a statement of the availability and commitment level for each such person. It should be expected that this availability and commitment of personnel would be included as a requirement in the contracting document. The statement of skill, experience and qualifications should be specifically focused on the type of services that the firm is seeking to provide to the Division. The statement should specifically address the firm's experience a) in providing the identified services to trial courts on a statewide basis, or in combinations of other large and small

jurisdictions; b) with respect to projects of the magnitude and complexity of the Division Statewide Judicial Case Management Software System; c) in working in a collaborative environment; and d) with compliance with budget and schedule constraints. The submission may include a brief discussion concerning the firm's anticipated approach to this project, competitive advantages the firm believes it has over competitors, and opportunities for competitive or bundled pricing. Firms should also highlight, including the cost or value, any additional products or services which it would consider offering as part of this project that would have the effect of adding additional value to the project but that may not be traditional CMS / Networking Connectivity / Data Warehousing products or services.

Service Providers wishing to express their interest in a CMS solution must also compare their existing CMS to the Appendix A attached hereto. CMS submissions that do not include a completed Appendix A may be disfavored.

The Division believes that exclusive teaming arrangements between vendors for contracting opportunities may be anti-competitive and deprive the Division of the best opportunity to address its needs. Except for the instance where a service provider with no significant experience in one particular area such as case management, networking or data warehousing teams with an entity to obtain such specific experience, submissions which are the result of, or otherwise reflect, exclusive teaming arrangements may be viewed with disfavor. However, it is appropriate for a service provider to address its willingness and ability to collaborate or otherwise work with other entities on the project.

Any person interested in any of the contracting opportunities identified above should make a written submission as described above. Each submission should consist of one (1) original, six (6) copies, and one (1) electronic version on CD or 3.5" diskette in a format usable with Microsoft Office or Adobe software. Hard copy submissions should be presented as 8 ½ x 11 in. documents, printed on normal 20 – 24 lb paper, contained in loose leaf, three-ring binders. Oversize documents, presentation boards, and elaborate bindings are disfavored. A person or entity interested in providing more than one type of service may make a single submission that addresses more than one area of service. However, firms making submissions for multiple service areas should consider and address with specificity the effects of bundling those services together, as well as the effects of providing unbundled or individual services.

Each submission should clearly identify the entity making the submission. (The uses of the terms "person" and "firm" in this announcement do not indicate any preference by the Division with respect to the type of entity, including individual persons, with whom it will contract. However, each single-project or other special purpose entity making a submission will be expected to have adequate financial and legally binding support from its founding entities.) Each submission should also clearly identify the firm's point of contact, including e-mail, fax number, telephone number, and mailing address.

Submissions should be mailed or delivered to:

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Section 2. Solution Overview

Computer Associates International, Inc. (hereafter Computer Associates or CA) believes new federal initiatives concerning the development and deployment of integrated justice information systems (IJIS) present significant challenges, risk and opportunities to the way courts deploy and use information technology. CA's CMS solution addresses these requirements and trends by providing a fully integrated solution, which leverages industrial strength technology, enables best practices and inherently provides functionality and value, beyond traditional requirements.

CA's CMS CORE module provides **standard functionality**, which is consistent with standard CMS requirements and tools available in the market place. This is enhanced by a 'plug and play' approach for the integration of mature **advanced modules**. Based on leading industry standard technology, the advanced modules provide best practices functionality in the areas of Administration and Management, Reporting and Analysis, Financial Management, and Executive Visualization and Decision Support, beyond what is generally available in the market. For a detailed description refer to Section 2.4 – 2.7.

CA also leverages its extensive global business solution expertise to ensure the Division of the State Court Administration of the Supreme Court of Indiana is empowered to, and provided with, the flexibility to leverage the industrial strength functionality inherent in CA's underlying technology. **This functionality, additional to the requirements of the Public Notice Contracting Opportunity (PNCO), is provided "out of the box" at no additional cost.** Integration of the CORE CMS, the advanced Modules and the inherent additional functionality ensures absolute minimal maintenance costs, lower total cost of ownership (TCO), and effective risk mitigation. This strong combination of industrial quality technology and best practices can be further leveraged through "out of the box" integration with such critical functions as Help Desk, Software Delivery and Asset Management (this is not exhaustive). For a detailed description refer to Section 2.9, *Additional Value Beyond PNCO Requirements*, and Appendix C, *Product Collateral and Reference Materials*.

The alternative to out of the box integration requires a multi-vendor approach, and the associated risk, higher costs and ongoing dependency on third party consulting. An equivalent multi-vendor solution would therefore cost in excess of $20,000,000. CA's **'one stop shop' strategy** of leveraging best practices and global expertise, underpinned by mature leading technology vastly simplifies the cost of integration and greatly reduces risk, representing significant savings to the Division. For example integrating a Portal Solution with a traditional independent content management tool would easily cost in excess of $1 million dollars for an initial integration effort, and would have considerable on going costs in maintaining two separate product lines, new releases, patches and ongoing integration needs.

2.1 Why IJIS?

IJIS initiatives represent a convergence of technical and operational trends within the justice community that have been developing for at least ten years. The embrace of new Internet-based technologies by Executive Branch agencies reflected in the architecture of NCIC 2000 and IAFIS provided agencies with a common set of transmission protocols (see Glossary, below) based on Internet standards. Emerging World Wide Web standards provided additional tools to agencies concerned with leveraging the possibilities inherent in the new transmission protocols.

Integrated justice systems differ from predecessor systems in that they are based upon sophisticated models for the sharing of information between agencies. Leveraging shared

information is critical to ensuring shared information is accurate, timely, complete and less expensive than information that must be transferred between separate information systems, either manually or electronically.[1] All too often, justice information system initiatives result in the construction of "stovepipe" systems specific to the needs of a single agency rather than integrated systems which foster data sharing and exchange over a number of different agencies. Such systems are inherently integration intensive, expensive to acquire and maintain and ultimately dependant on third party consulting for ongoing management.

2.2 The CA Case Management System (CMS) Solution

The CORE case management component is the cornerstone of an integrated justice system because information concerning the initiation, progress, and disposition of cases (and in criminal matters, charges) is properly "owned" by Judicial Branch agencies. The Court is best able to originate entry of data concerning cases because it is institutionally responsible for their monitoring, their progress and making and recording of adjudications.

To be effective and reliable, case management systems must be set within a complex of supporting technical and organizational infrastructures. To support evolving IJIS architectures and safeguard vital Judicial Branch prerogatives CMS systems must be:

- Based upon Internet standards, such as TCP/IP
- Designed to support and ensure exchange of data by multiple agencies
- Designed upon security standards aligned with NCIC 2000 requirements
- Designed and configured with accountability and security in mind
- Self-manageable and deployable through high levels of automation
- Designed to minimize costs
- Designed to streamline operations and ensure high availability.

The CA CMS architecture consists of the following components, representing a combination of leading technologies and world's best case management practices:

1. The CMS CORE module.
2. The CMS / Financial Interface module.
3. The CMS Query / Analysis / Reporting module.
4. The CMS Operational / Administration module.
5. The CMS Digital Dashboard module.

The CMS suite is graphically depicted and described below in Figure 1.

[1] This discussion is based upon *Justice National Information Architecture*, National Association of State Information Resource Executives (NASIRE), 1999, p.7. This document is the result of a yearlong collaboration between NASIRE, which is the professional organization for State Executive Branch CIOs and the U.S. Department of Justice (DOJ) Office of Justice Programs (OJP).

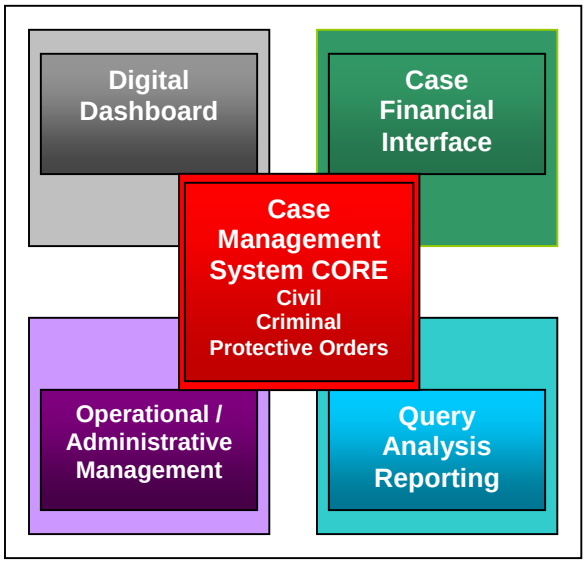


Figure 1. CA Case Management Suite

2.3 Case Management System CORE Module

CMS provides advanced case management processes and functions for judicial circuit-based Court, States Attorney, Public Defender, and Probation/Community Corrections agencies. CMS is designed to work on a multi-agency, multi-county basis integrating and coordinating case management for many different counties that may be part of a district. Cases are entered, traced, and reported for all interested parties accelerating due process for all involved.

The CMS case management system uses an open architecture to provide flexibility and scalability to accommodate the changing business needs and statutory requirements that face courts, law enforcement, prosecutors, and defenders. This flexible design comes from the separation of the information into three logical areas: people, the case, and case relationships

2.3.1 People

CMS allows the users of the system to build a large, commonly shared rolodex of information on people: defendants, suspects, attorneys, judges, witnesses, victim services, etc. This bank of information allows users to collect the data once for an individual. After the person is part of the directory of information, the entry then becomes part of a maintenance function, changing only the needed information. These directory entries contain the following:

- Demographics
- Identification
- Schooling
- Treatments
- Public Notes
- Aliases
- Employment
- Health
- Substance Abuse
- Service Information

Using this directory search function, users can search on partial names, SSN, birth dates, and several other fields. For more complicated searches, the query function enables the user to build a query on virtually all of the information collected in the directory.

2.3.2 The Case

This component contains information defining the case. Both criminal and civil case types are supported. In criminal cases, much of this information is collected at the time of an arrest, while other data is updated as the case moves through the judicial process. The case information includes:

- Original charges
- Intake information
- Filed charges
- Charge disposition
- Sentencing information
- Diversion offers
- Progress/Appearance docket
- Time or costs expended
- Private case notes

Users utilize a common interface across the application, allowing for easier navigation and quick interpretation of the environment. The search screens in this system look and function in a similar fashion, providing fast access to critical information. Information designated “public” in both People and Case components of the system may be searched, at the option of the Court, via the World Wide Web. Progress Docket event codes can be defined to trigger generation of other case events, documents, or calendar entries. Docket event codes with use limited to a specific location may be defined.

2.3.3 Case Relationships

The Relationship component links people to a case. They are defined by the role the person is playing on a case. Because an individual’s information is independent of case, the same person may participate in different roles and cases. Information collected with the relationships includes role, relationship notes, contacts, and witness/victim details.

2.3.4 Flexibility and Open Architecture

CA’s case management system is based on two leading data development standards: Microsoft Visual Basic and the Oracle Database Management System or Microsoft’s SQL Server Database Management System. CA has designed a system that allows end users to define how the system will work for them. One way in which this is achieved is through the use of coded information instead of free-form text. Codes allow for consistent data entry across multiple users. Users define these codes to match their business. Business rules are enforced through the database and stored procedures. This allows appropriately authorized users to modify business rules as changes occur in either business functionality or statutory changes.

2.3.5 Document Generation

The case management system uses Microsoft Word, for the generation of documentation. Users may define mail merge templates using a selection of merge variables that are defined in the system. If a needed merge variable is not there, it is defined based on information in the database or gathered from a user at the time the document is generated.

2.3.6 Microsoft Outlook

With CMS' Event Processor module, CMS can be configured to interface with Microsoft Outlook. The Event Processor can send e-mails when a court date has changed, populate calendars with suspense dates, or add an action item to a task list for a motion preparation. These events, as well as any others, can be linked to a person's Outlook account as they work in conjunction with a case's progress docket.

2.3.7 Scalability

CMS may be implemented using a number of application typologies. Courts may elect to run CMS on a central server shared by all CMS users or implement a "hub and spoke" architecture in which each county or agency in a judicial district has its own database server. The CMS user interface is designed to function efficiently on relatively low speed (56KB) circuits.

2.4 Case Financial System

CMS supports an open interface to either CA (i.e., Masterpiece) or third party accounting systems. CA's applications architectures are based on open standards. CMS reflects this corporate value by providing CMS implementers with the option of using either a CA accounting solution or an application programming interface (API) permitting financial transactions to be collected by CMS and "pushed" to other financial systems.

2.5 Query Analysis Reporting

CA has world class database reporting and data warehousing technologies which CMS leverages through its Query / Analysis / Reporting module. This component permits CMS implementers to provide appropriately authorized CMS users with the capability to run either predefined reports or develop ad hoc reports as required. Reports with use limited to a specific location may be defined. Report results can be displayed through the World Wide Web.

2.6 Operational / Administrative Management

CA has world-class technologies for managing the operations and development of computer systems. CMS leverages these technologies in three ways:

1. **Security.** CMS implements a multi-tiered security model using its own application level security administration tools as well as other CA technologies required to deploy CMS over an Internet-like WAN. In particular, CA offers strong encryption and Public Key Infrastructure (PKI) management technologies for agencies required to meet NCIC 2000 requirements.
2. **Operations Management.** CMS uses CA technologies to proactively manage its operating environment consistent with State Court policies and procedures. CA technologies are able to monitor, in real time, the "end to end" health of the CMS suite, including the networks, servers and associated infrastructure supporting the CMS application. For supporting detail, refer to Section 2.9, *Additional Value Beyond PNCO Requirements*, and Appendix C, *Product Collateral and Reference Material*.
3. **Application Development.** CMS implementers wishing to modify or self-maintain the CMS application may leverage CA's world-class application development and change management tools. For supporting detail, refer to Section 2.9, *Additional Value Beyond PNCO Requirements*, and Appendix C, *Product Collateral and Reference Material*.

2.7 Digital Dashboard

CMS exposes system status information through the open Application Instrumentation and Control (AIC) standard. CMS implementers may take advantage of this feature by publishing to the CMS Digital Dashboard not only information as to the "health" of the CMS suite itself, but also quantitative data concerning achievement measured against statutory or court rules. For example, this capability may be used to monitor performance against "speedy trial" provisions.

2.8 Premium Support

A variety of support and training offerings are available to CMS implementers. CA views this offering as an extension of the project's Implementation Phase (see Section 4.2.6, below) and therefore critical to ensuring smooth transition to self reliance, where relevant, thus reducing operation and future costs while mitigating the Court's risk. Premium Support is designed to empower CA clients to decide how much support they need, and when they need it.

For courts desiring continued direct post-implementation support by CA, CA Services' Premium Support offers a customized support system combining both onsite and telephone support elements specific to the needs and budget of the Court, all tailored around the deployed CMS solution. The proposal detailed in Section 5 includes three years of premium support, beginning with the deployment of the first production (i.e., post-pilot) site.

2.9 Additional Value Beyond PNCO Requirements

This paragraphs following summarize the various CA technologies leveraged in each advanced CMS module. More detailed descriptions are available in Appendix C, below.

2.9.1 Digital Dashboard

CleverPath Portal is the personalized workplace for judicial and other administrative staff, which provides interactive web access for all information needs. This secure, scalable enterprise information portal provides a collaborative environment and consolidated view of information applications and web content specific to the needs of the court and administrative staff. This 100% Java portal requires minimal end user training.

CleverPath Enterprise Content Management (ECM) enables the courts to capture, store, manipulate, retrieve, and publish various types of digital content, including video, audio, graphics, text, presentations, all binary content. ECM is built to store large volumes or terabytes of digital binary data. ECM offers a workflow engine where workflow models can be simply defined to automate the process of content creation and publishing. ECM provides built-in capabilities to publish only approved content to CleverPath Portal. Publishing activities are typically triggered by events defined in the workflow model.

2.9.2 Operational/ Administrative Management (viewed via Digital Dashboard)

Unicenter Network and Systems Management (UNIX, NT) automatically monitors and collects performance data from a wide range of resources across all levels of the infrastructure and highlights performance degradations. It provides the detailed metrics and automatic alerts that administrators need to pinpoint the exact source of a problem and resolve it quickly.

Unicenter Database, Performance Monitoring (Oracle) protects the data stored in this relational database management system by automatically monitoring and managing its databases and applications as an integral part of an organization's computing environment.

This intelligent agent monitors the performance of key Oracle resources and, if customizable thresholds are exceeded, sends alerts to Unicenter.

AllFusion CCC/Harvest provides a comprehensive, integrated, change and configuration management solution that effectively manages complex, enterprise-wide development activities throughout the entire application life. CA is providing the Division with the full source code of our core CMS. In order to implement changes to the core CMS system and to deploy the changes in a production environment, tools such as CCC/Harvest become essential.

AllFusion ERwin is the industry-leading modeling solution that enables organizations to visualize complex data structures, inventory information assets, and establish enterprise-wide standards for managing data. This enables your organization to effectively design, implement, and maintain high quality databases, data warehouses, and enterprise data models. The CMS data model should be maintained within ERwin for the entire life of the solution for ease of maintenance and management.

2.9.3 Query, Analysis and Reporting

Advantage Data Transformer delivers a comprehensive application development tool that provides bi-directional data transformation and integration between heterogeneous databases, simplifying database connectivity and application development. This powerful solution enables access to all types of internal and external structured data for consolidation and transformation into valuable information assets. The Advantage Repository enables a common, shared view of metadata that is automatically captured from virtually all aspects of an organization's information environment. Its advanced web user interface ensures access to vital information asset descriptions and interrelationships, accelerating data warehouse development, reducing application development and maintenance costs and enabling information sharing across the organization. Moving and using data from external systems becomes possible with Advantage Data Transformer.

CleverPath Reporter is the standard reporting solution for CMS. Reporter allows an organization to build its knowledge base by generating sophisticated reports that directly support business processes. This powerful reporting solution enables an organization to facilitate the flow of information, schedule automatic delivery of updated reports, provide remote access to information and ensure high performance.

Advantage EDBC provides high level read/write connectivity to OS/390 Enterprise Mainframe Databases and embraces a wide complement of industry APIs including ActiveX Data Objects, ODBC, JDBC, OLE/DB and CGI. For example, direct connection to data from other systems using mainframe databases, such as BMV, ISP, FSSA and DOC is possible through EDBC.

Jasmine Integration Server (ODBC provider) is an integration server providing connectivity to disparate systems. Companies can create applications that integrate disparate systems into an integrated, seamless online presence.

2.9.4 Case Financial Interface

Masterpiece/Net is CA's integrated financial system with which CMS interacts to handle Court financial processing. Masterpiece's unique design utilizes a Java thin-client to provide seamless management of financial data across multiple operating systems, databases and hardware platforms, from the desktop or the Internet. Masterpiece supports a number of relational databases, including Oracle. Masterpiece offers powerful reporting, analysis and prediction tools

as well. CA Masterpiece/Net modules included in this proposal are highlighted in **bold letters**, below.

The **Masterpiece General Ledger** handles high volume accounting, budget, and allocation processing; handles multi-agency ledgers; offers an integrated, multi-hierarchical account structure; permits viewing of data from a very high level (e.g., Total Revenue for 2000); and supports multiple budgeting methods and reporting capabilities.

The **Masterpiece Accounts Payable Module** provides total payables management to control cash and expenses. Masterpiece Accounts Payable offers flexible processing and rapid reporting; is customizable to meet specific business needs; offers detailed and summary information on all payables activity; supports multi-company, multi-currency, multi-bank, and multinational payment processing; and advance tracking and invoice registration features.

The **Masterpiece Accounts Receivable Module** supports comprehensive debt and credit management features to increase cash flow and reduce delinquency; accurate and timely production of invoices and statements; templates that can be tailored for invoicing and statements; and autocash facilities to streamline cash application.

2.9.5 Data Warehousing/Knowledge Management

As a part of the project detailed below in Section 3, CA will create both production and data warehouse instances of the CMS database. CA envisions transfer of data to the data warehouse database instance will be made in near-real time, allowing the data warehouse database instance to be used for most of the Branch's reporting needs.

CA offers world-class data warehouse/knowledge management technology, some of which has been described above in this Section 2.9. A brief primer on CA's knowledge management strategy is presented in the following paragraphs. CA knowledge management products included in this proposal are highlighted in **bold letters**, below.

Knowledge Management Solutions: Software

Knowledge Management (KM) software can be classified into knowledge management infrastructure and knowledge management access:

- Knowledge management infrastructure is the base or platform upon which KM solutions are built. It consists of the population and management of the repositories for unstructured data (document and content management), structured data (data warehousing generation and management), and business processes (models and best practices). Also part of the infrastructure is groupware to provide the support for collaboration (needed for knowledge sharing) and messaging (including email and other forms of interpersonal communication).

- Knowledge management access builds on the KM infrastructure to provide individual and group access to a knowledge base. It consists of enterprise information portals and advanced searching and Web-based query for providing access to both structured and unstructured data, augmented by KM tools. Intellectual capital management software builds and manages employee competencies inventory; supports process improvement, definition, and capture; and monitors and measures improvements in process. Other KM tools provide insight into how individuals and groups access information and monitor what information they create for the purpose of profiling sources of tacit knowledge.

Data Warehousing

KM infrastructure software from CA provides companies with a way to manage the data warehousing process and the related metadata. Data warehousing is a process that brings together business transaction data from multiple sources into an integrated, time-based data store for the purposes of decision support and analysis. Managing the process requires the ability to manage the major tasks or steps that comprise the process:

- **Warehouse design.** This step involves designing a data model for the warehouse, organized to support query and analysis. CA provides the widely used **AllFusion ER*win* Data Modeler** for building the models and AllFusion Model Manager (formerly Model-Mart) for enabling team collaboration in model development.

- **Warehouse generation.** This step involves extracting, cleaning, and transforming transactional data from multiple sources and loading the data into an integrated analytical data store or warehouse. CA provides integrated solutions, including **Advantage Data Transformer** for data transformation support and bidirectional replication of data between heterogeneous databases.

- **Warehouse management.** This step involves managing the data store itself, including maintenance procedures and monitoring usage to ensure maximum performance and availability. CA software supports major administrative functions such as metadata management, performance tuning and monitoring, usage tracking, query management, job scheduling, backup/ recovery, and security.

KM Access Software

CA's KM access software offers solutions for accessing information and applications; analyzing, predicting, and reporting on business data; and improving customer relationships.

For accessing information and applications, CA offers its EIP software, **CleverPath Portal** (formerly Jasmine Portal), which administers views into applications and information based on user roles. This role-based administration decreases the administration costs associated with deploying customized interfaces to ebusiness process participants in and outside the enterprise. Furthermore, user productivity and knowledge sharing increase as access to corporate data and the ability to publish to information stores is broadly enabled. CA's infrastructure software can be accessed along with other software and information through the portal. Reports created in **CleverPath Reporter** can be presented via the portal. Customer service-related data from CA's best-in-class Unicenter ServiceDesk product can be integrated with the **CleverPath Portal** as well.

2.10 Future Direction

Current plans call for the following extensions to CMS:

- Migration of business logic from stored procedures to Java
- Direct integration of CA's XML interface with the CMS application
- Integration of CA's advanced wireless technologies to better support "paperless" warrant and protective order transactions
- Extension of CMS interface to permit law offices (and other authorized users of the system) to remotely generate documents and maintain docket entries for cases in which they are a party.

2.11 CMS Glossary

CMS Case Management System.

HTTP Hyper Text Transmission Protocol. See Transmission Protocols.

IAFIS Integrated Automated Fingerprint Identification System.

IJIS Integrated Justice Information System.

IP Internet Protocol. See Transmission Protocols.

NCIC National Crime Information Center. An information system and nationwide network serving local, state and federal law enforcement agencies. This system was significantly redesigned in the late 1990's using design standards based upon Internet-style transmission protocols.

PKI Public Key Infrastructure. An open security standard representing the current state of the art for strong encryption over WANs.

Transmission Protocols Transmission protocols provide the mechanism for the transmission of information. IP controls transmissions between networks and is the fundamental mechanism of the Internet and many large WANs. TCP provides a mechanism for information transfer on a single WAN, and is often used with IP. HTTP is the key transmission protocol of the World Wide Web and provides the mechanism for linking from a web page to a specific URL.

URL Universal Resource Locator. A unique address for an object on the World Wide Web.

WAN Wide Area Network.

2.12 Detailed Case Management System Description

In the section below, we describe the CMS in detail. CA's specific responses to Court functional requirements may be found in Appendix A, below.

Computer Associates' CMS provides advanced case management processes and functions for prosecutor's offices and courts. The CMS is designed to work on a multi-jurisdiction (and multi-agency) basis, integrating and coordinating case management. Cases are entered, tracked and reported for all interested parties.

The CMS is based on an open architecture and flexible design to accommodate the changing business needs and statutory requirements that face courts today. This flexible design comes from the separation of the information into three logical areas: the **people**, the **case**, and the **relationships**.

The People

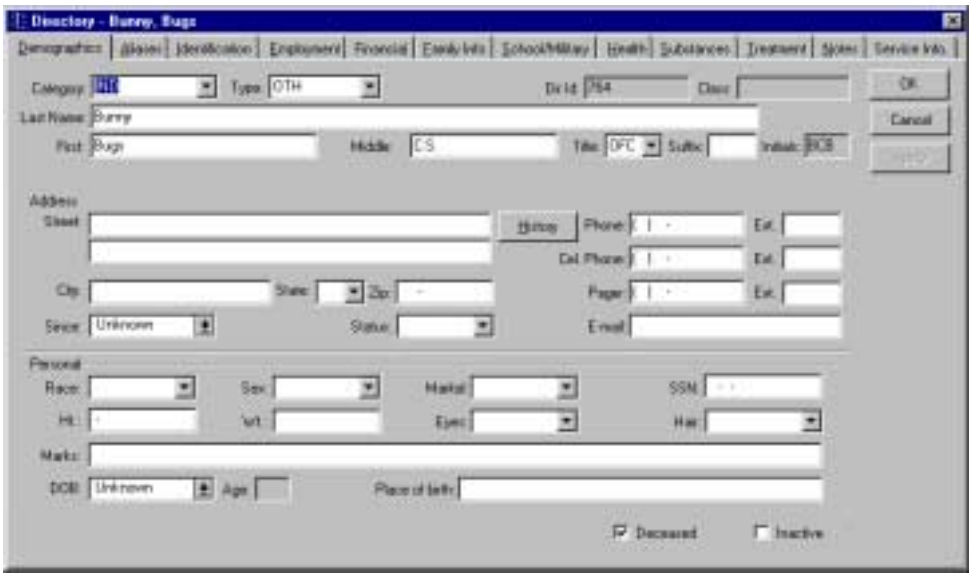


Figure 2 – Directory Detail Screen

With the People area (see Figure 2, above), the CMS allows users to build a large common directory of information on people: defendants, suspects, attorneys, judges, witnesses, victims, etc. This directory is a single collection point of information on people in the justice system. After a person is part of the directory, the entry is maintained permanently; users can change information when required. Directory entries contain the following information:

- Demographics
- Aliases
- Identification
- Employment
- Schooling
- Health
- Treatments
- Substance use
- Public notes
- Service information

The directory supports quick and accurate searches on people (see Figure 3, below). Using the directory search function, users can search on partial names, SSN, birth dates and several other fields. For more complicated searches, the query function allows the user to build a query on virtually any of the information collected in the directory.

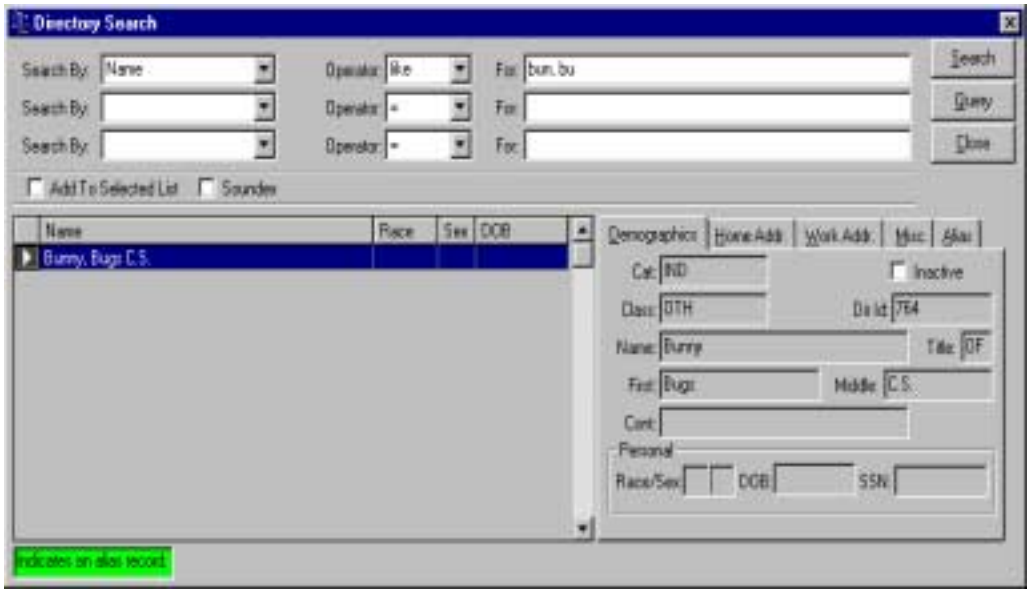


Figure 3 – Directory Search Screen

The Cases

The Case area contains information defining the case. Case information includes:

- Original Charges
- Intake Information
- Filed Charges
- Charge Disposition
- Sentencing Information
- Diversion Offers
- Progress Docket
- Time or Costs Expended
- Private Case Notes

See Figure 4, below, for an example.

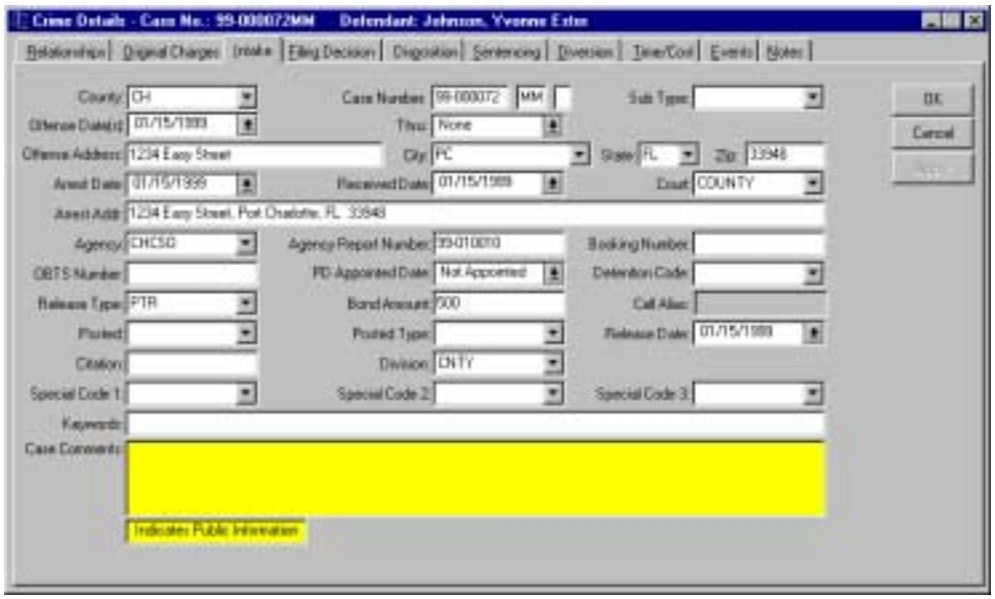


Figure 4 – Case Detail Screen

The CMS maintains a common interface throughout the application. The searching capabilities attest to the effort that went into the CMS design. Every search screens in this system looks and functions in a similar fashion (see Figure 5, below). The case search screen below shows the common search criteria. More complicated searches can be constructed using the query option.

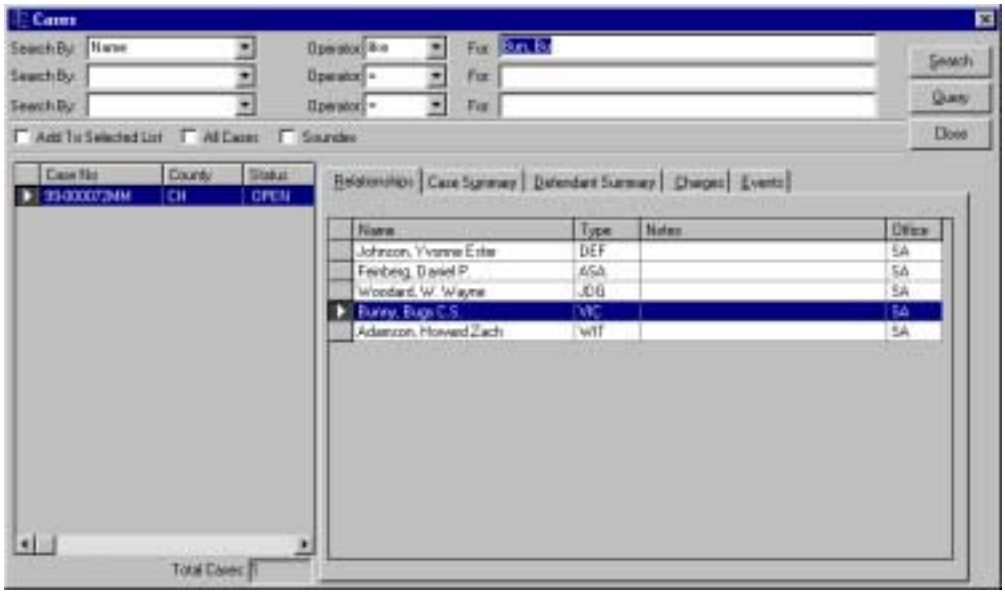


Figure 5 – Case Search Screen

The Relationships

The Relationships link people to a case. The relationship is defined by the role a person is playing a case (see Figure 6, below). Because information about people is independent of the case, the same person may act in different roles on different cases. The information collected with the relationships includes, among other things, the role, relationship notes, contacts, and witness and victim details.

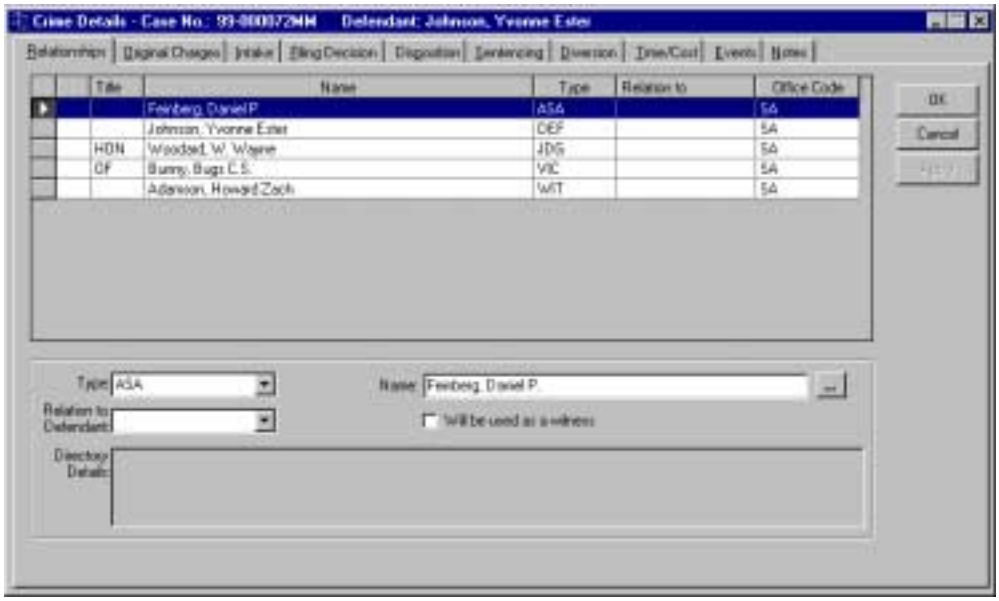


Figure 6 – Relationships Screen

Flexibility and Open Architecture

CA's CMS is based on two of today's most popular development standards: Microsoft Visual Basic and the Oracle Relational Database Management System. In developing and supporting the CMS, CA ensured that end users would be able to define how the system would work for them. This is achieved through the use of coded information instead of free-form text. The use of codes allows for consistent data entry across multiple users. These codes are defined by users to match their business requirements. Many of the business rules are enforced through the database. This allows users to modify them as changes occur in either their business process or statutory changes.

Document Generation

CA's CMS uses Microsoft Word, an industry leader in the generation of documentation. Users can define mail merge templates using a selection of merge variables that are defined in the system. If a merge variable that a user needs is absent, the user can define it based on information in the database or gathered from a user at the time the document is generated.

Report Generation

CA's CMS provides a selection of predefined reports that are generated from the system. These reports use CA's CleverPath Reporter Print Engine. By using a report writer, CA allows users to create their own reports and define them to the system. Again, this flexibility allows the system to change according to user needs.

Security

Protecting the data is as important as tracking the data. The CA CMS allows for two levels of protection: by office and by an administrator-defined profile. The office codes allow the system to limit information, like case notes, to particular office. Using the administrator-defined profiles, the system can be configured to restrict access for each control on a screen. With these powerful features, administrators can protect the data from accidental modification.

Microsoft Outlook

With the CMS Event Processor, the system can be configured to interface with Microsoft Outlook's Calendar Facility. The Event Processor can send an email message when a court date has changed, populate a calendar with suspense dates, or add an action item to a task list for a motion preparation. All these events, as well as any others that can be configured, can be linked to a user's Outlook account. These events work in conjunction with a case's progress docket. A user would simply alert the system to notify him for progress on a docket entry in which he is interested and the action to take and the Event Processor would do the rest.

E-Mail

The CA CMS can make use of any MAPI-compliant electronic mail client to send e-mail notices and reminders.

Sample CMS Screens

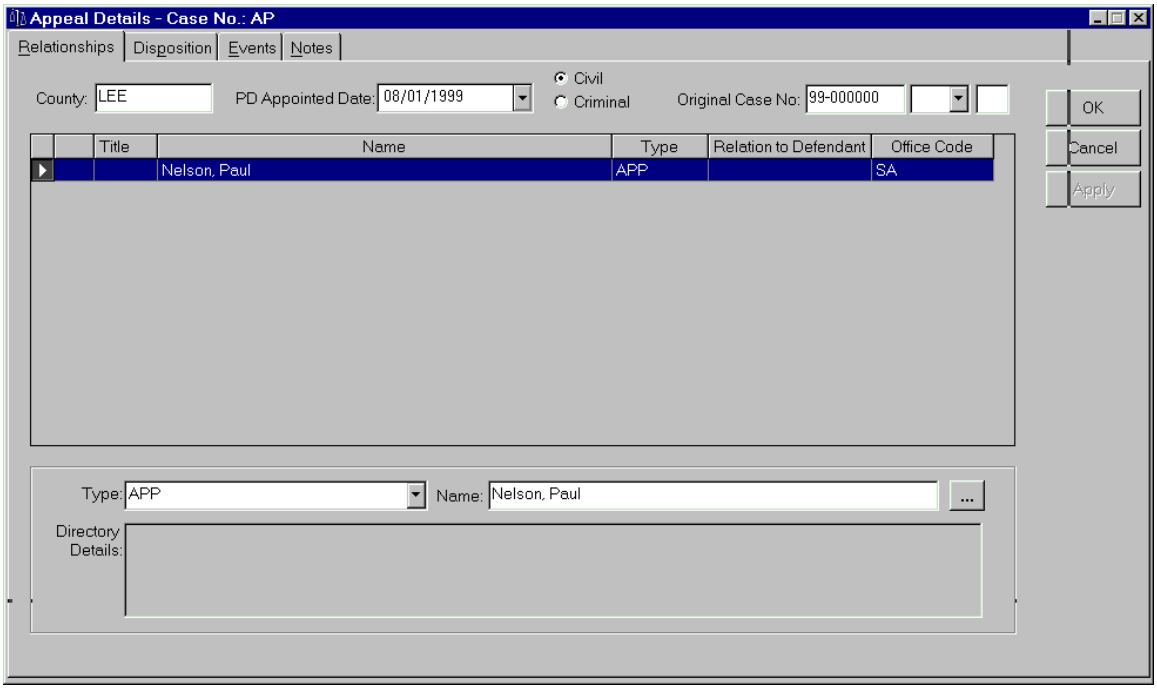


Figure 7 – Appeal Details Screen

Crime Details (Appeal Cases) – When an appeal case is selected, the following screen displays all the case information about that case. People who have a significant role in the case (judge, attorneys, witnesses, etc.) are added to the case through the *Relationships* tab. Case disposition is displayed on the *Disposition* tab. The *Events* tab shows any significant action that happened to a case as well as the date that action happened. The *Notes* tab allows miscellaneous information to be added to the case.

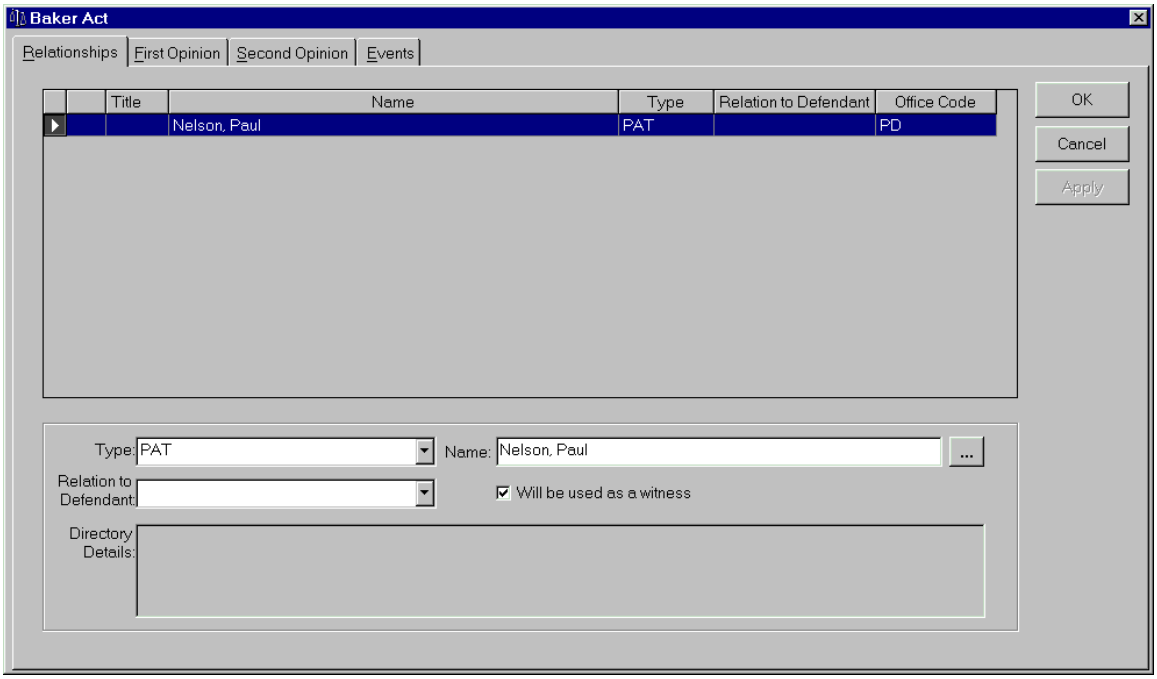


Figure 8 – Domestic Violence Case Details Screen

Domestic Violence Case Details – Like the *Appeal Details* screen, this screen is displayed when a Baker Act (Domestic Violence) case is selected and viewed. Relationships of individuals to the case are added through the *Relationships* tab, Opinions are entered on their corresponding tabs. The *Events* tab shows any significant action that happened to the case as well as the date that the action happened.

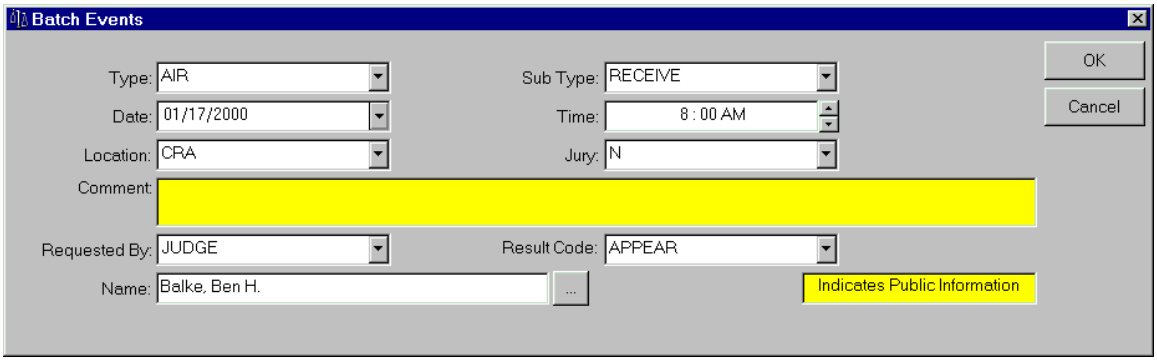


Figure 9 – Batch Events Screen

Batch Events – Allows the user to add an event to multiple cases at once. Instead of having to open each case individually and entering the event manually, this screen adds the event to all the selected cases in the Case Search screen.

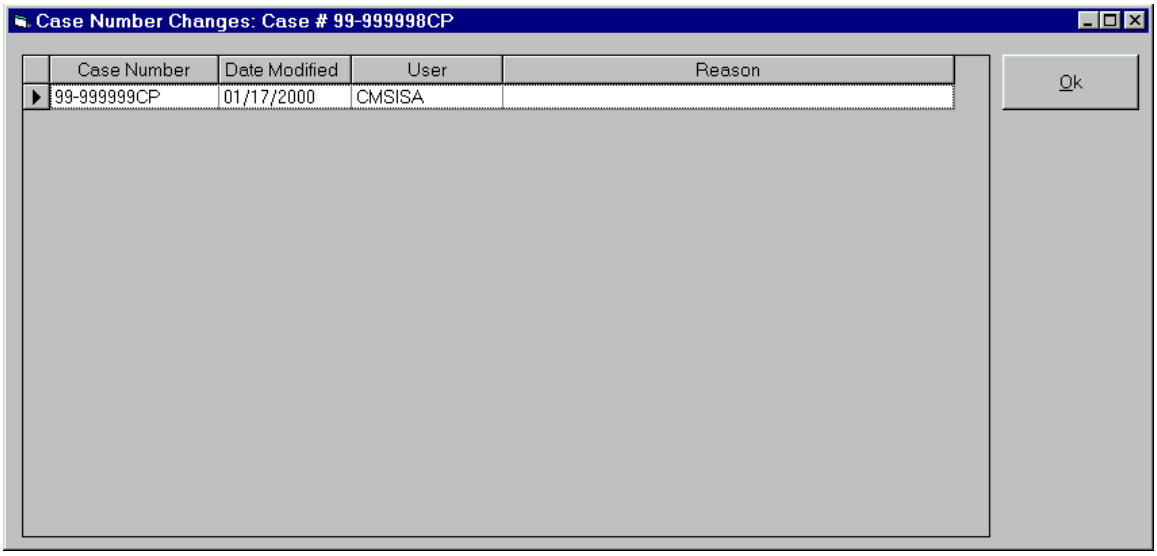


Figure 10 – Case Number Changes Screen

Case Number Changes – This screen represents a log of all the case numbers that the current case was assigned to at any given time. The log displays the old case number; the date the case number was changed/corrected, the user that made the change, and the reason for the change.

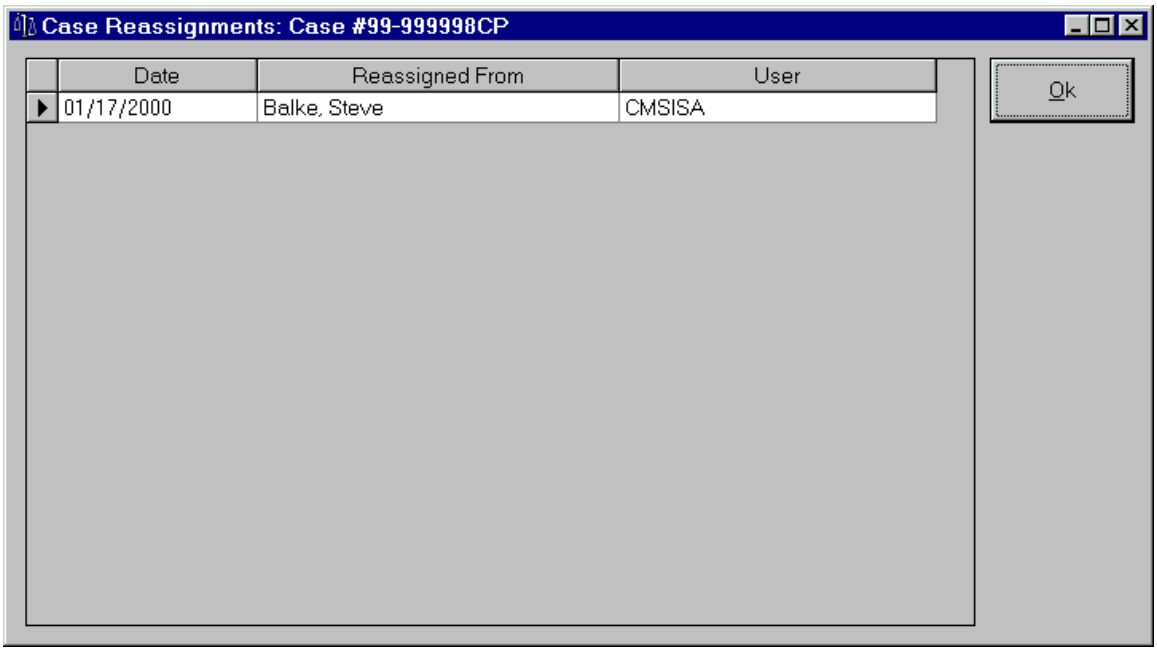


Figure 11 – Case Reassignments Log Screen

Case Reassignments Log – This screen represents a log of all reassignments that have happened to a case. A case could be reassigned to a different judge or a different attorney. The date the reassignment was committed, who it was reassigned from, and the user that performed the action, are all included in the log.

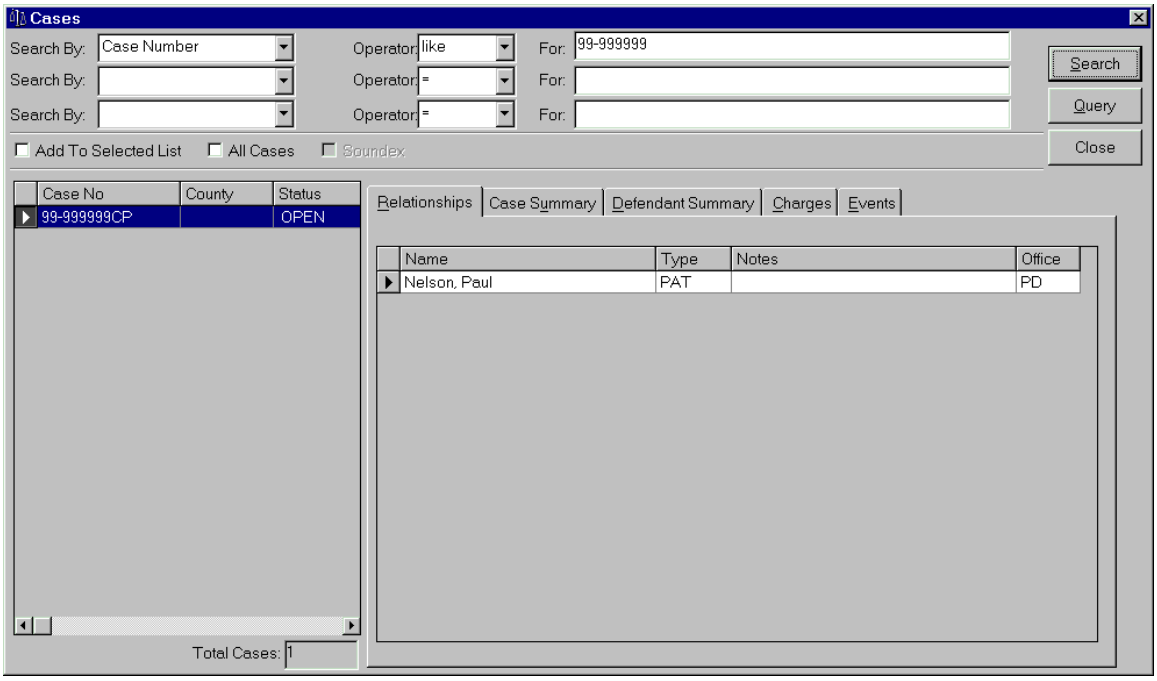


Figure 12 – Case Search Screen

Case Search – The default screen when the application is opened. This is the mechanism for how a user can find a case. The user can specify a specific case number to search for, the Case Number the judge assigned to the case, the county the case is in, etc. All these criteria are used to query the database and return all the cases that match them. The results of the query are added to the grid on the lower left. The lower right represents a static, quick look at the data for a case. Clicking the *Query* button brings up a similar search dialog that allows more than three criteria to be added and used.

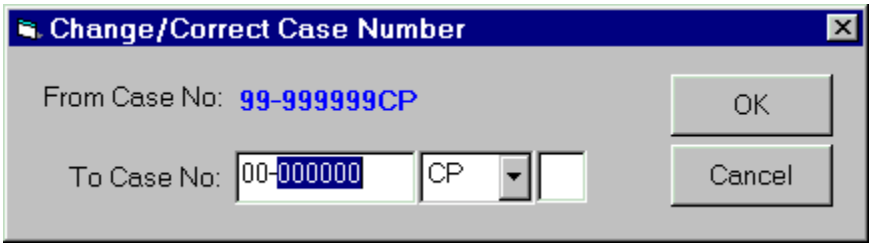


Figure 13 – Change/Correct Case Number Screen

Change/Correct Case Number – This screen is used to change the case number for a case because it was either entered wrong the first time or it has since changed due to some other factor. Any information associated to the original case number is transferred over to the new case number.

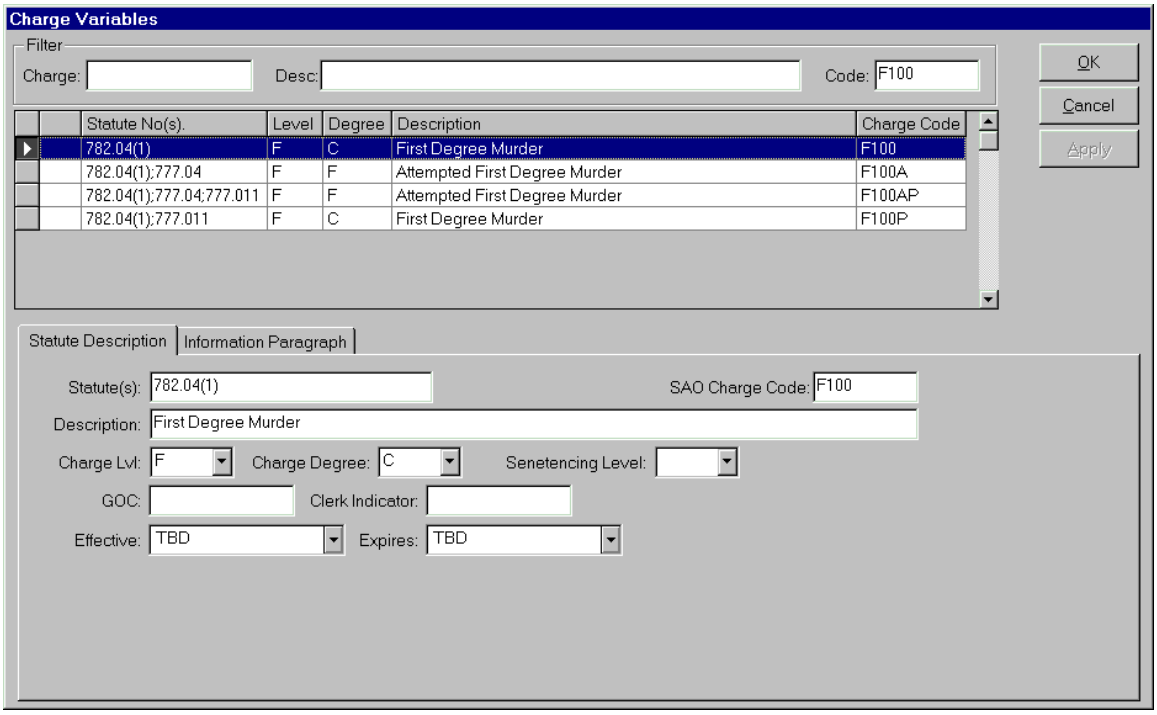


Figure 14 – Charge Variable Screen

Charge Variable – This screen is used for maintaining the vast list of charge variables that are in the system. When a charge is added, deleted, or changed, this screen is used to make those changes in the database. Here, you can add/remove statutes, change the description of the charge, changes it level, degree, etc.

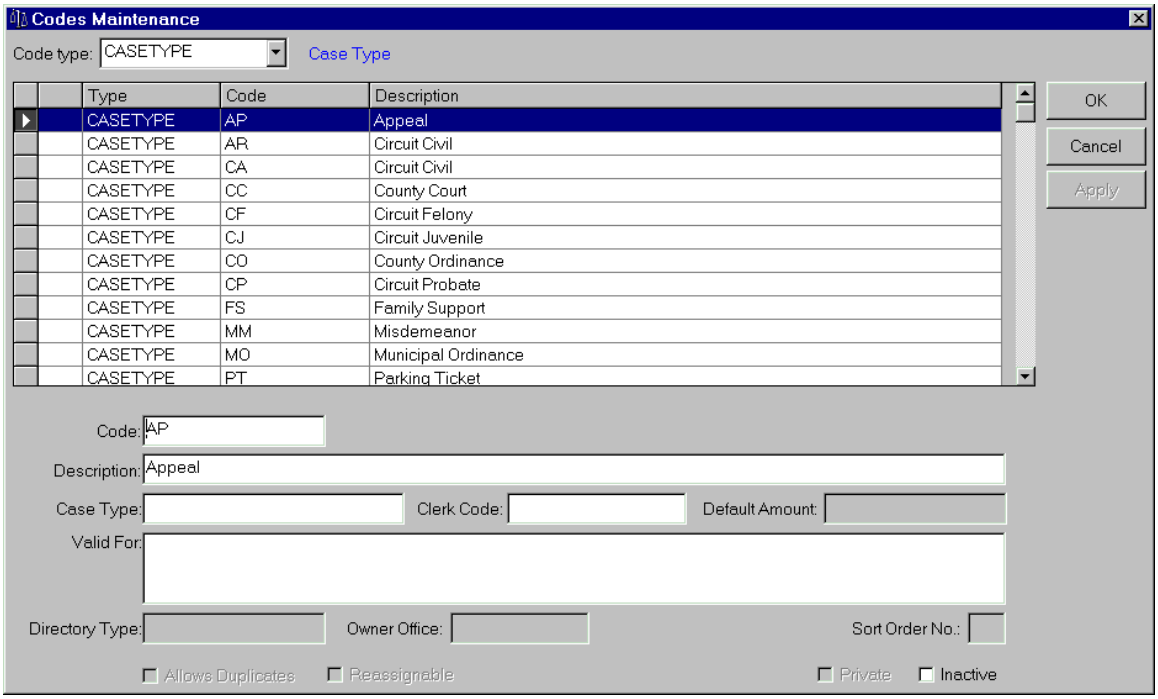


Figure 15 – Codes Maintenance Screen

Codes Maintenance – This screen is used for maintaining all the different codes that are in the system. Each dropdown in the interface is a potential code list in the database. By adding, changing, and even removing codes from the different types, the administrators are able to keep the system up to date and accurate.

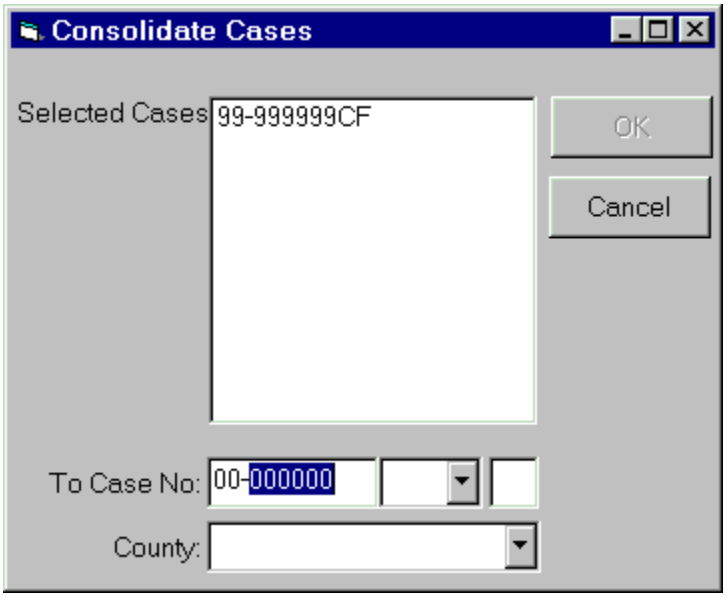


Figure 16 – Consolidate Cases Screen

Consolidate Cases – This screen is used to consolidate multiple cases into one single case.

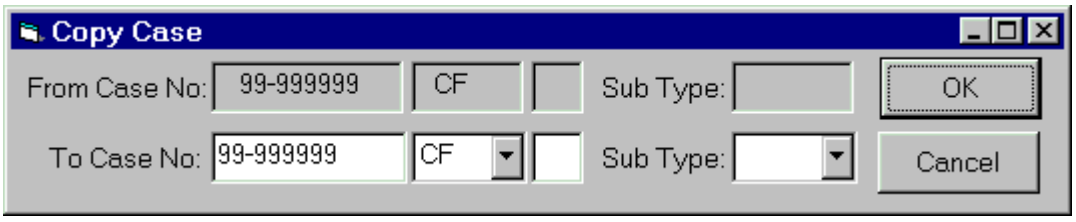


Figure 17 – Copy Cases Screen

Copy Case – This screen is used to copy all of the information from one case to another.

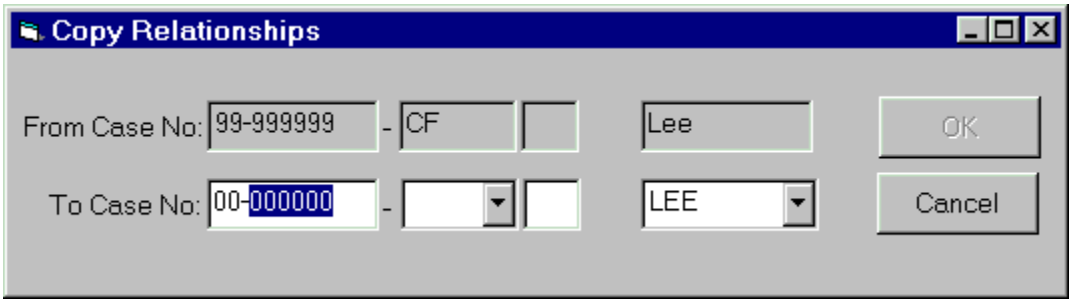


Figure 18 – Copy Relationships Screen

Copy Relationships – This screen is used to copy all of the relationship information (attorneys, defendant, witnesses, etc.) from one case to another.

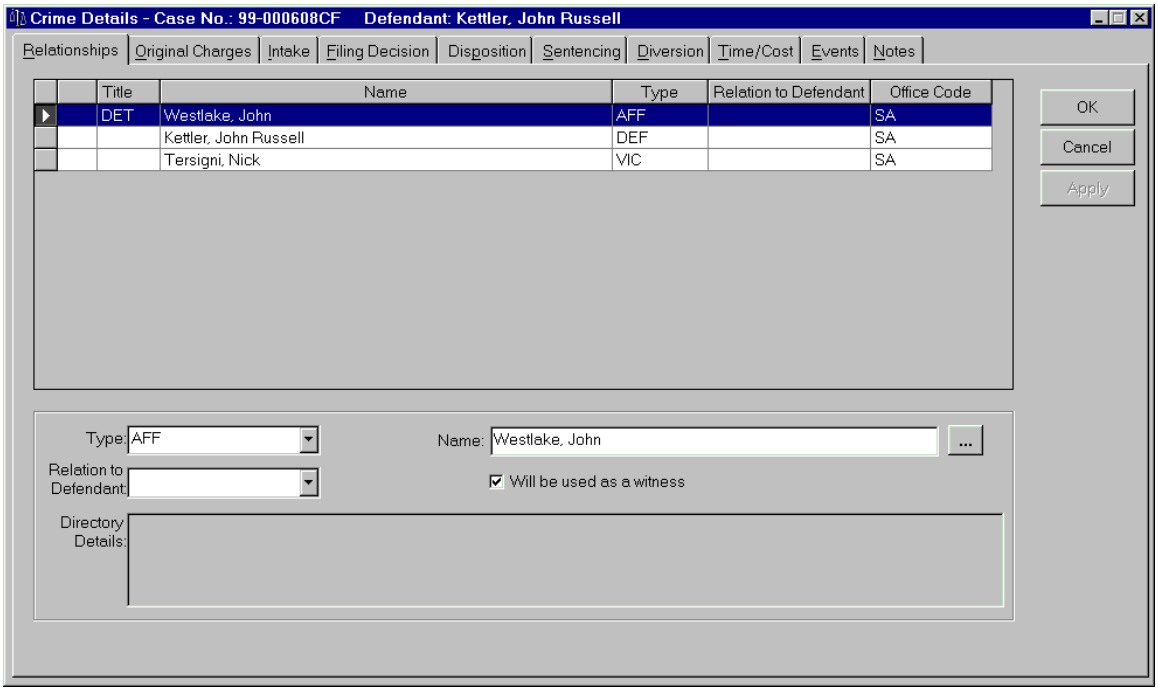


Figure 19 – Crime Details (Felony Cases) Screen

Crime Details (Felony Cases) – When a felony case is examined, the following screen displays all the case information about that case. Each tab represents a different piece of information about the case where that information can be added, edited, or deleted in most cases.

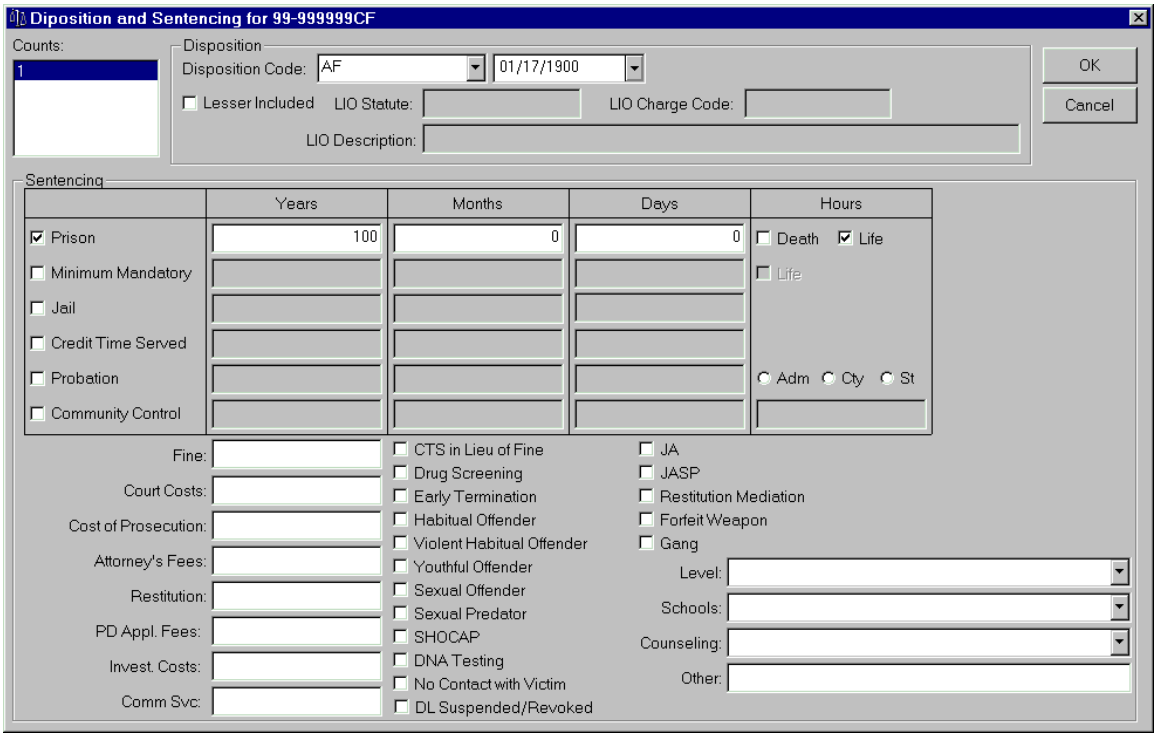


Figure 20 – Criminal Disposition and Sentencing Screen

Criminal Disposition and Sentencing – The screen above allows the user to enter disposition and sentencing information about a criminal case. Using this screen, the user can enter the prison sentence, probation assignment, various costs involved for the defendant, etc.

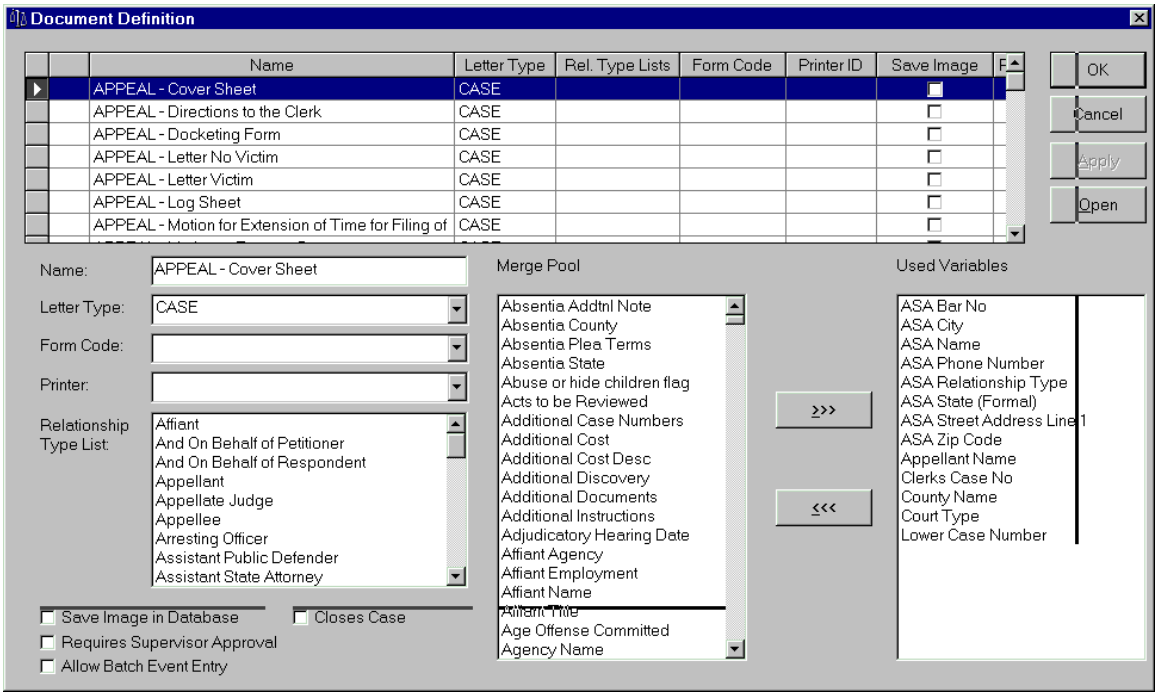


Figure 21 – Document Definition Screen

Document Definition – This screen is used to add, modify, or remove document definitions from the database. Mail merge documents are assigned the appropriate merge fields in the list boxes in the lower right, while other information such as the type of letter (case, appeal, report, etc.) or the relationship that the document applies to, are defined on the left. By clicking the Open button, the selected document in the grid above is opened.

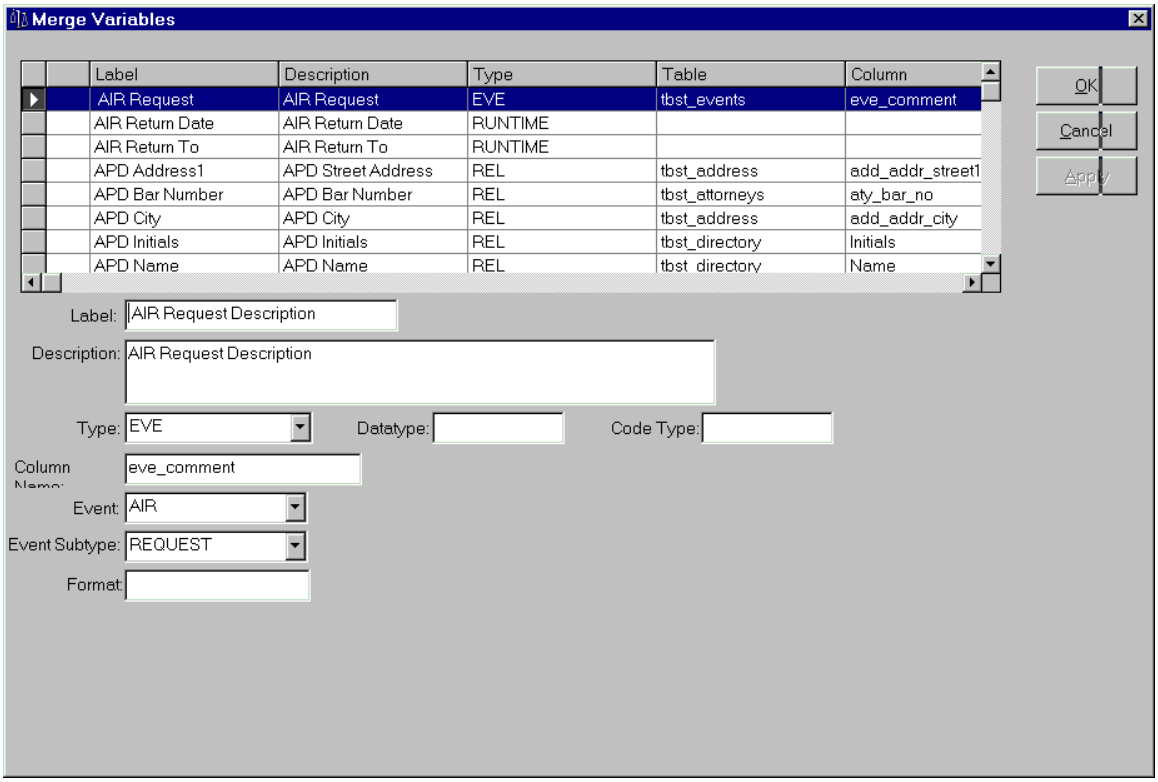


Figure 22 – Merge Variables Screen

Merge Variables – This screen is used to define all the merge variables that a Microsoft Word file might use when preparing a document. This screen gives the user access to information in the database so that it can be used to populate fields in a mail merge document outside of CMS.

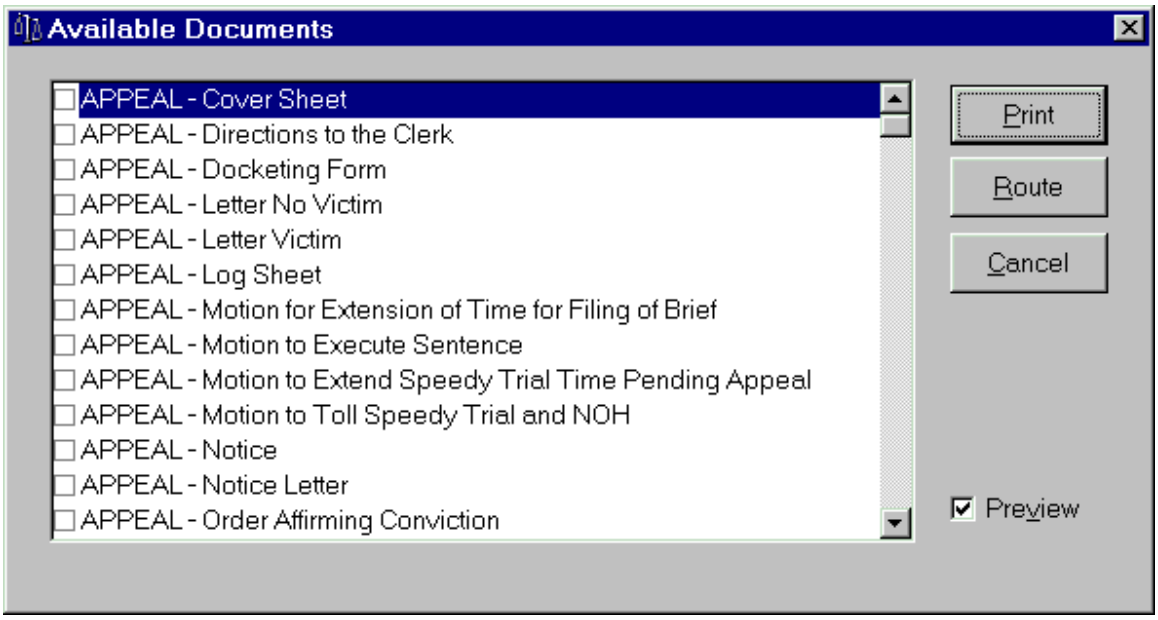


Figure 23 – Available Documents Screen

Available Documents – The screen above is accessed through the *Generate Letters/Documents* menu. Here a user can print or preview a document, or even send the document to another user.

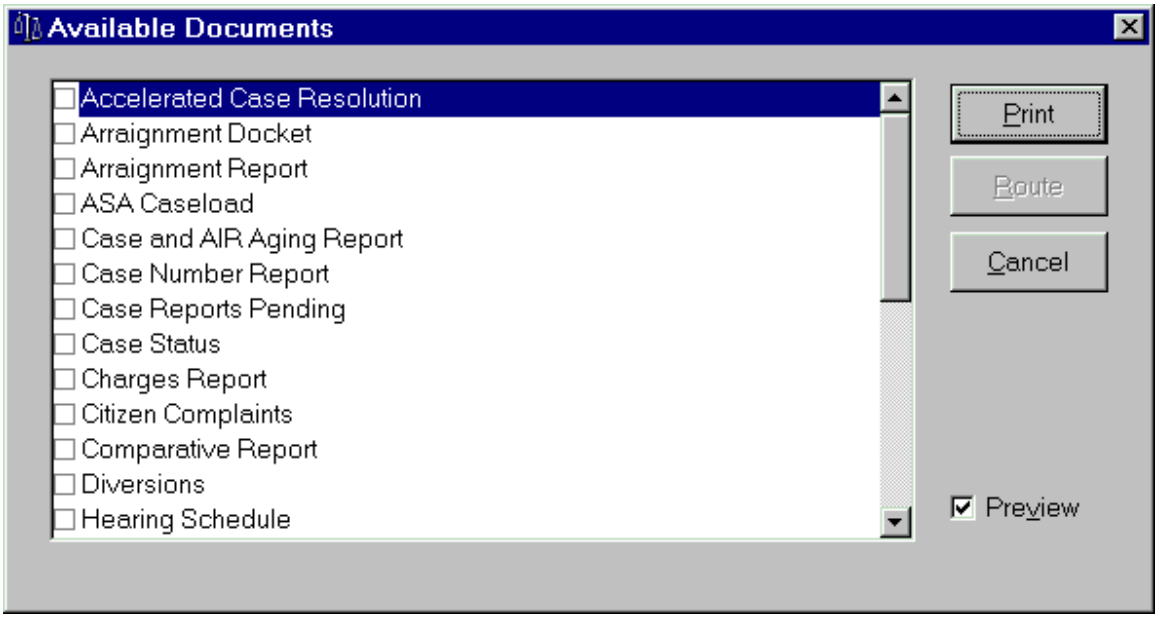


Figure 24 – Available Reports Screen

Available Reports – This screen is actually accessed through the *Generate Reports* menu. Listed are all the available documents and reports that the user can run. The list is specific to that user's office. Here, the user can choose to print the document directly, view a preview of the document, or route the document via email to another user.

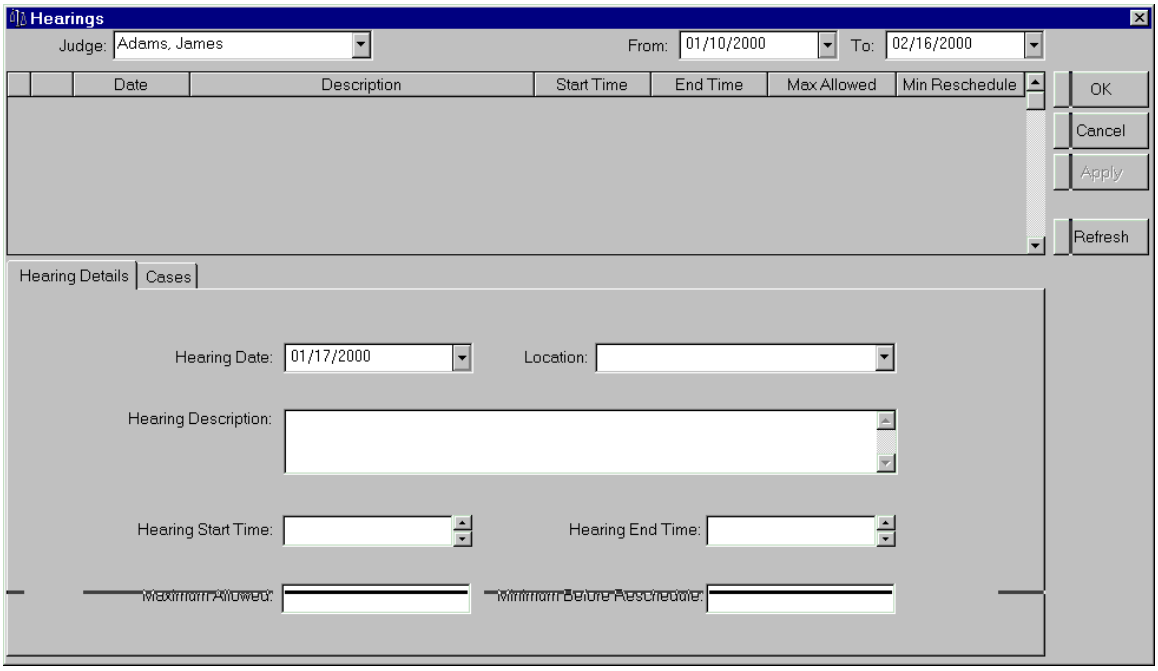


Figure 25 – Hearings Screen

Hearings – In the screen above, the user can record hearings assigned to a Judge for a given date and time range. Cases are assigned to these blocks for processing.

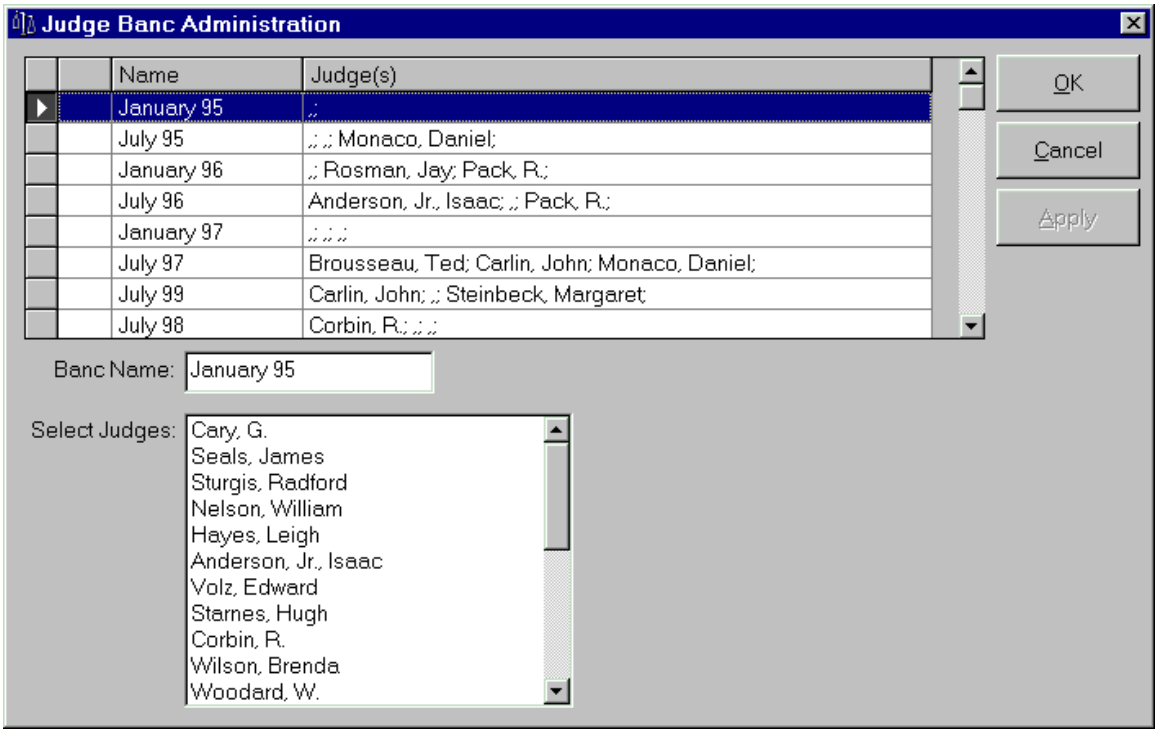


Figure 26 – Judge Banc Screen

Judge Banc – The Judge Banc screen is used to establish a list of Judges that will hear an intermediate appeals court case and render an opinion. At the time the appeal case is created, the user is asked which Judge Banc will review the appeal. The Judges enter their information regarding the opinion.

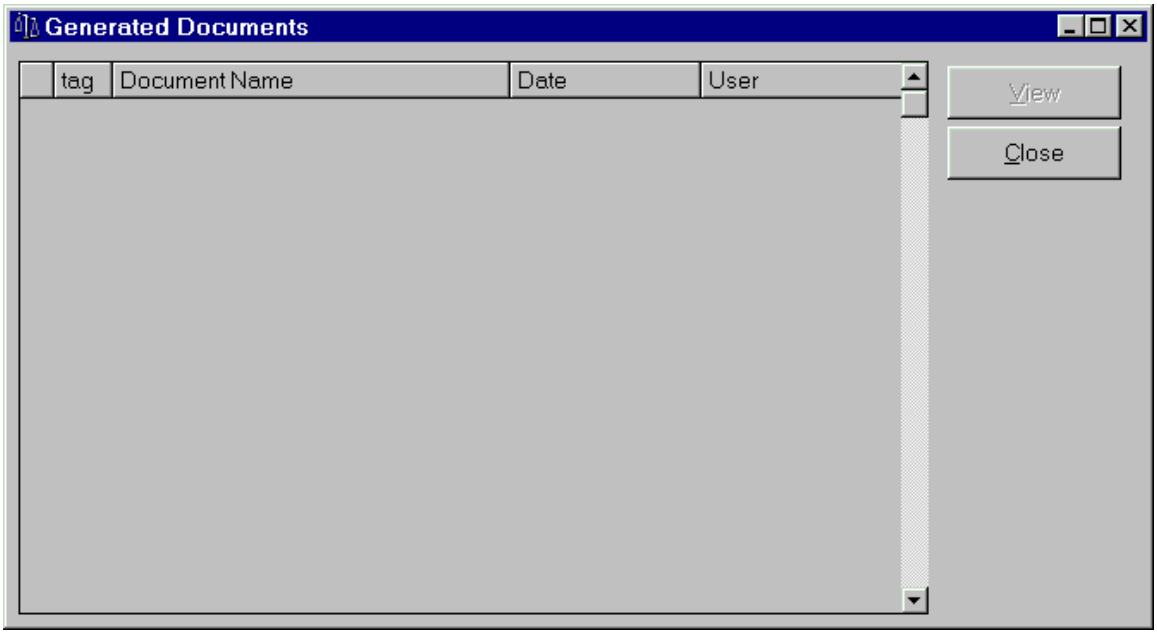


Figure 27 – Generated Documents Screen

Generated Documents – The screen above represents a log of all the documents generated for a case. The grid shows the document name that was generated, the date it was generated, and the use that generated it. This is a read-only screen, so nothing can be added, edited, or removed from the grid.

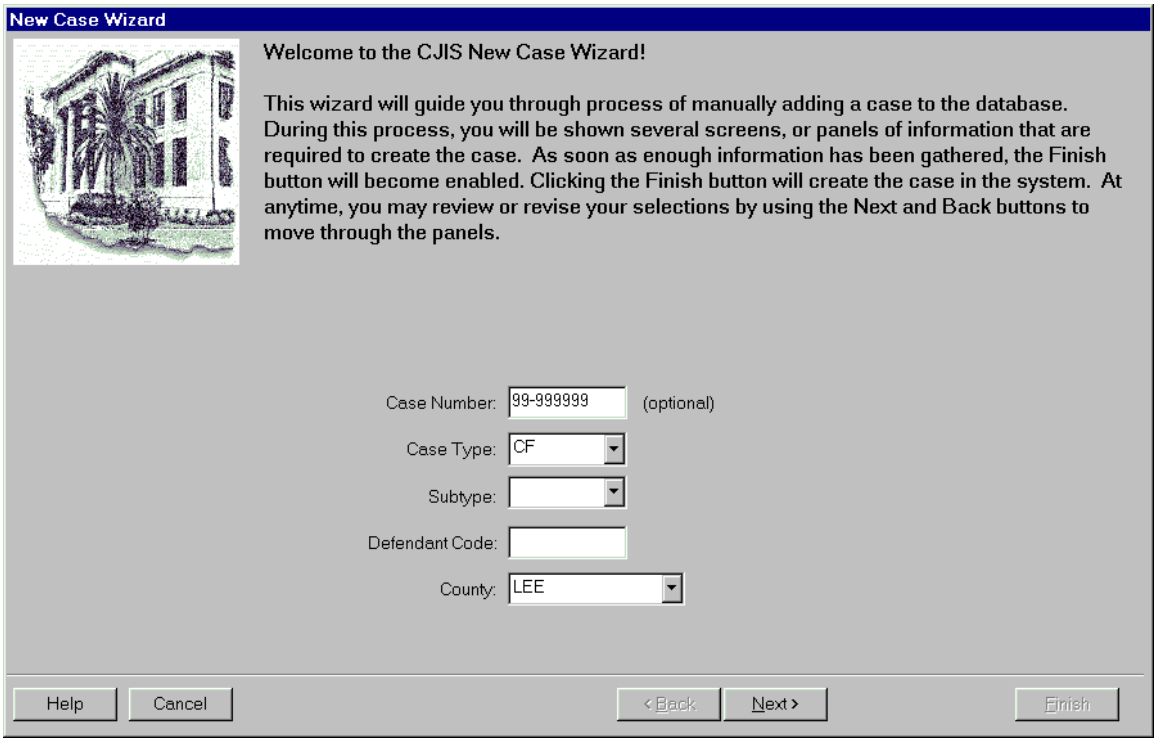


Figure 28 – New Case Wizard Screen

New Case Wizard – The *New Case Wizard* is the mechanism for entering new cases into the system. Here the information about the case (case number, county or agency, defendant, charges, etc.) is entered into the system for the first time. The case is then created in the system and ready for use by other users.

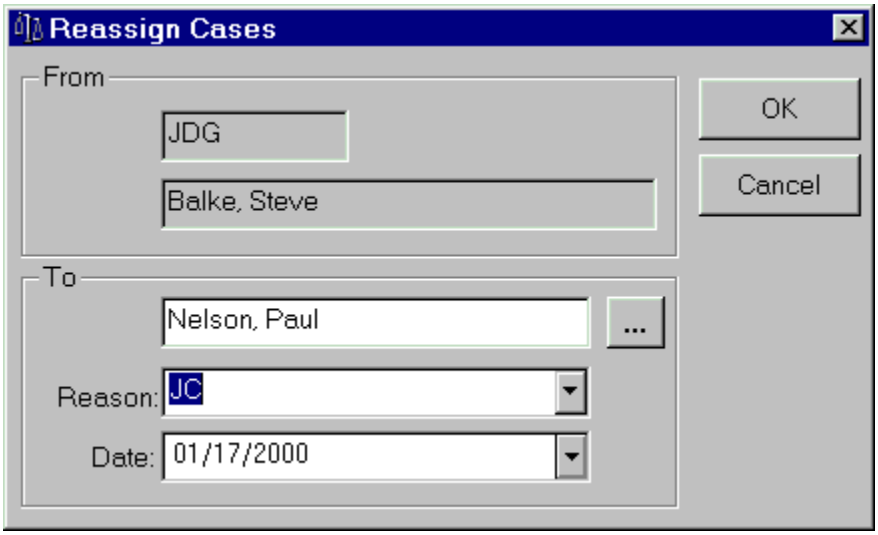


Figure 29 – Reassign Cases Screen

Reassign Cases – This screen is used to change the assignment of a selected relationship to another individual. A case may be reassigned when there is a judge change. This screen accomplishes that task.

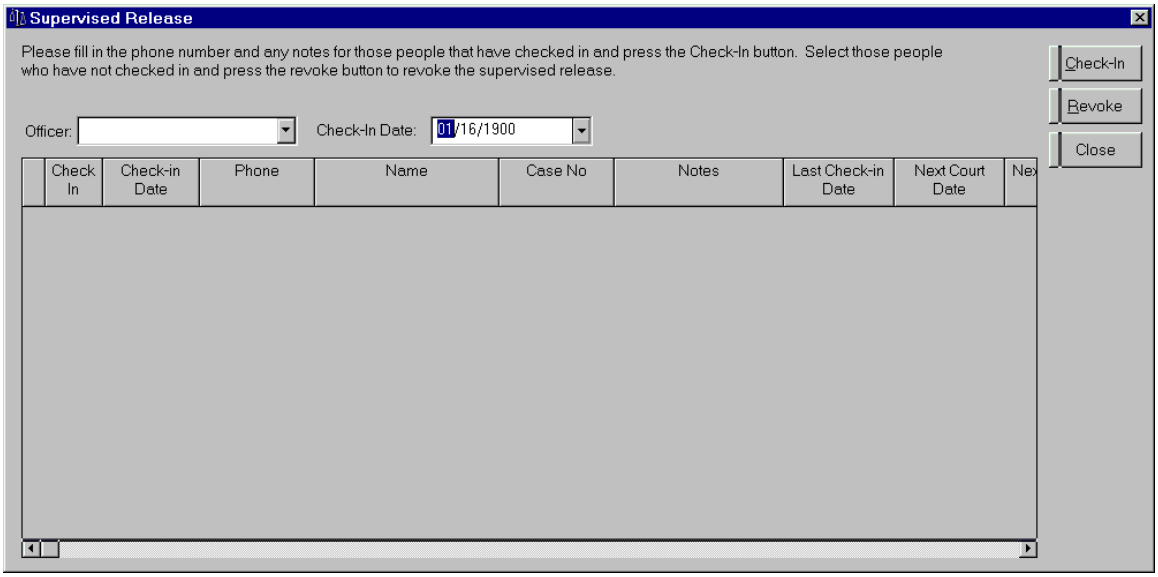


Figure 30 – Supervised Release Check-in Screen

Supervised Release Check-in – This screen is used to monitor accused that have been granted a release prior to trials. After selecting an officer and date, a list of individuals appear that are required to check-in. The officer can indicate the check-in information or optionally begin the process of revoke their release.

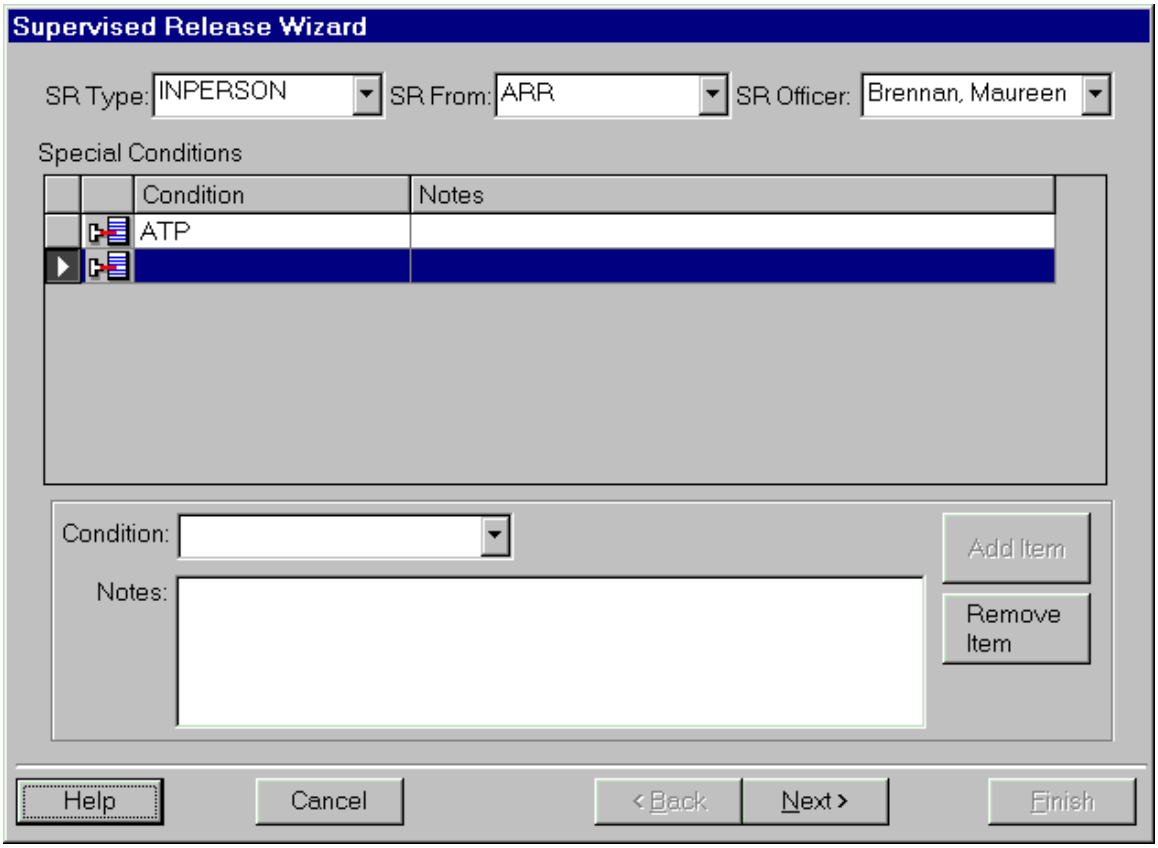


Figure 31 – Supervised Release Wizard Screen

Supervised Release Wizard – The supervised release wizard is used to establish the parameters for an individual. Using the wizard, the user enters the conditions for the release and the required check-in recurrence pattern.

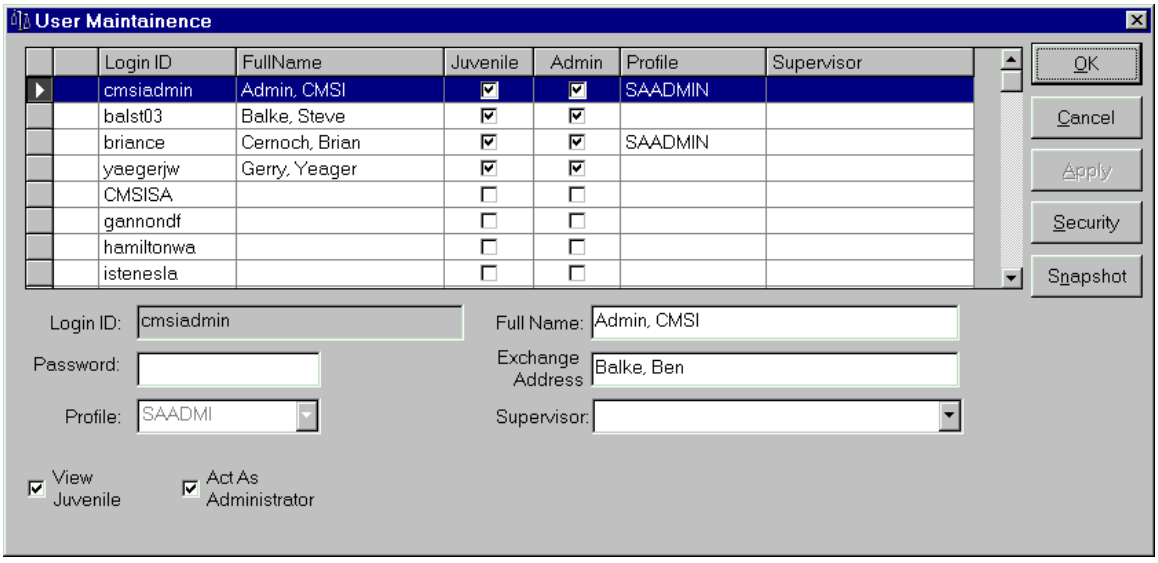


Figure 32 – User Maintenance Screen

User Maintenance - This screen is used by administrators to add, edit, and delete users from the system. Privileges can be granted or removed using the dropdowns and security options.

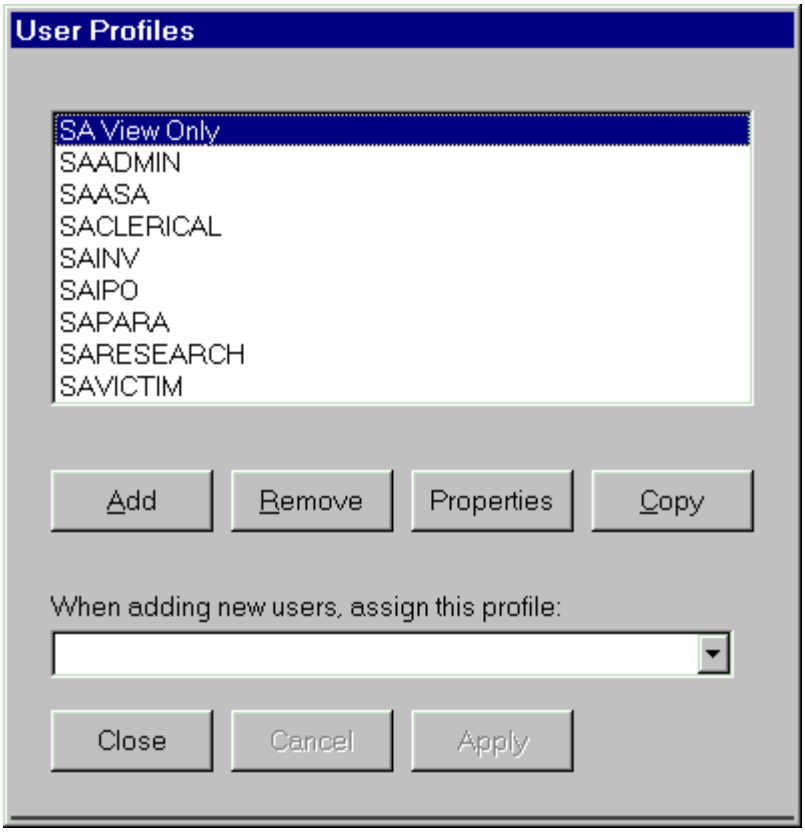


Figure 33 – User Profiles Screen

User Profiles – This screen is used to create user profiles. Rather than give every individual user their own security settings, these security settings are grouped into profiles so that a single profile can be applied to users that have the same rights. When a change is made to a profile, it affects all users in that profile, reducing the amount of work necessary by the administrator to change security settings.

2.13 CMS Frequently Asked Questions

Below is a list of the most frequently asked questions about Computer Associates' Case Management System.

1. *Describe the project management methods including status reporting, issue resolution, contract management, and work direction CA uses on CMS projects.*

   The CA Program Manager, working with the Judicial Branch's Project Manager, will have overall responsibility for delivery of the project. The CA Program Manager will use various tools and proven methodologies to manage the project, with a special focus on:

   Scope Management

   Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. It consists of initiation to proceed, scope planning, scope definition, scope verification and acceptance, scope change quantification, scope change development, scope change control.

   Time Management

   Time Management includes the processes required to ensure timely completion of the project. It consists of activity definition, activity sequencing, activity duration estimating, schedule development, effort tracking, and schedule control.

   Cost Management

   Cost Management includes the processes required to ensure that the project is completed within the approved budget. It consists of resource planning, cost estimating, cost budgeting, and cost control.

   Implementation Management

   Implementation Management includes the processes required to ensure that the various elements of the project are properly coordinated. It consists of project plan development and project plan execution.

   Human Resource Management

   Human Resource Management includes the process required to make the most effective use of the people involved with the project. It consists of organizational planning, staff acquisition, and team development.

   Communication Management

   Communication Management includes the processes required to ensure the timely and appropriate generation, collection dissemination, storage, and ultimate disposition of project information. It consists of communication planning, information distribution, status reporting, project team status meetings, project management committee (PMC) status meetings, executive steering committee (ESC) status meetings, and formal review and approval signoff.

Issue Management

Issue Management includes the processes concerned with identifying, analyzing, and responding to project issues. It consists of issue planning, issue identification, issue quantification, issue resolution development, and issue control.

Risk Management

Risk Management includes the processes concerned with identifying, analyzing, and responding to project risk. It consists of risk planning, risk identification, risk quantification, risk strategy development, and risk control.

Quality Management

Quality Management includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It consists of quality planning, quality assurance, and quality control.

Project Scope Changes

CA's proposed change control process is documented in Attachment A, below. The CA Program Manager will report the project status at least once every week to the Branch's Project Manager. Status meetings will occur either in person or telephonically.

2. *Describe the end-user-training plan you propose, including the approach you propose to use (e.g., train the trainers, direct training of all end-users, computer-based training, or other approach.)*

CA proposes to use multiple methods to train end-users. First, CA will provide train-the-trainer intensive training to a select number of end users. Once they are trained, these "super" users will be able to provide "Level One Support" to other end users.

CA also proposes to use its innovative Virtual Learning Network (VLN) approach to end user training. The VLN is a comprehensive, on-line training tool developed particularly for CMS training. Like traditional computer-based training, a VLN allows users to train as their individual schedules permit. Because VLNs are on-line, they can be instantly updated and refreshed.

CA's training methods depend heavily on instructor (or computer) led, hands-on exercises. Each person being trained should have access to a computer to ensure maximum participation in the training sessions. Proficiency testing is used as needed or required by the Client. The approximate percentages are: lecture: 5%; demonstration: 15%; hands-on exercise 60%; proficiency testing 20%).

User training includes all facets of the CMS application. The training curriculum will be developed as part of this project.

For direct training, three (3) days of training is generally sufficient. For train the trainer, CA typically extends the training to five (5) days to ensure that those users who have been directly trained will be able to train their peers. Approximately one-half of the training is devoted to case initiation and management. The balance is devoted to calendaring, scheduling, document production and other CMS functions.

CA will provide end users training manuals prior to the training sessions. These manuals will be developed during the project. As CA provides new releases of, or other updates to, the CMS, it will include on-line training updates to end-users.

3. *List and briefly describe the types of written manuals, guidelines or instruction sheets you will provide, the intended audience and purpose of each.*

   CA will provide paper and on-line support manuals for the CMS. The CMS comes equipped with an on-line help function to assist users.

4. *Describe the pre- and post-implementation support services you will provide to resolve technical problems and questions, including hot line and hours of operation.*

   CA will provide either on-site or telephonic pre-implementation support to resolve technical problems and questions. Through CA's Premium Support offering, 24 x 7 x 365 day support is available.

5. *Describe the software maintenance services you will provide, including:*

   CA expects to have at least one software version upgrade per year. If a software defect is discovered in a general release of the CMS software, CA will provide a patch to eliminate the defect.

   Enhancements can occur for a variety of reasons, including, among others, software malfunctions (bugs), legislative changes, technology updates. Enhancements can be either vendor-initiated or client-initiated. Significant software bugs will generally result in patches, enhancements or new versions of the CMS. It is CA's intent to continue to consult with the State on the necessity to enhance the CMS because of legislative changes. Technology changes will be evaluated to determine whether they support an enhancement to the CMS.

   CA typically conducts stringent and wide-ranged application testing prior to release. This testing includes:

   - Process functionality of the data
   - Entry, retrieval, update, and delete functions of the system
   - Acceptable system response time
   - All data management functions; and
   - Management and statistical reporting function.

6. *Does your company sponsor a users group? If so, please describe the operation and functions of the users group.*

   CA does not currently sponsor a users' group specifically for the CMS product. CA does sponsor an annual national meeting of all its users called CA World. Please see www.ca.com/caworld for information about CA World 2002 in Orlando, Florida.

7. *Do you maintain a set ratio of customer service personnel to end-users? If so, what is that ratio?*

   CA does not maintain standard customer service personnel to end user ratios.

8. *State your business plan for keeping your products current with emerging technologies that offer improvements in functionality, speed, and performance.*

   CA invests hundreds of millions of dollars every year keeping its product base current with emerging technologies that improve the functionality, speed, and performance of that product base. In addition, over the last two years CA has expended more than $7 billion acquiring companies to enhance the functionality, speed and performance of its product offerings. Through internal research and development and external acquisition, CA will continue to keep its products on the leading edge of technology.

9. *Describe any on-line help capabilities of your product. At what levels is the help function available – module, screen, field, etc.? Can the help information be customized by the court to include Office-specific procedures and instructions?*

   The CMS application fully incorporates on-line context sensitive at the screen level. The screen help information gives a full description of all the fields on the screen as well as any screen interactions that are available. The text also contains procedures to provide common tasks that may be performed on that screen. The help text is maintained in Microsoft Word using RoboHelp to compile the information into an .HLP file. This file may be modified to include Office-specific procedures and instructions by changing existing topic information or adding links in existing topics to new customized topics.

10. *Describe the process and options you propose for converting case data from existing case management systems to your system.*

    Computer Associates has a proprietary data conversion practice known as DM Solutions. The DM Solutions team uses a proprietary methodology to examine 100% of the source data. That analysis, coupled with transformation sessions with subject matter experts, provides the data transformation process. This coupled process allows for the reduction in the number of data loads required using traditional sampling methods. Computer Associates provides these services on a fixed fee basis after determining the number of columns and rows in the source system.

11. *Describe how your CMS identifies the jurisdiction (general or limited), office location (physical site), and case type for each case.*

    The CMS contains various dropdown fields that contain the information listed above. This allows for structured, reliable entry of the data for use in later reports and queries.

12. *Explain how your product handles case numbering.*

    - *Can the CMS automatically assign case numbers for a case type (1) separately for each office location, (2) sequentially by case type, regardless of filing location, and (3) sequentially by case type, separately for each filing location?*

      The CMS application is very flexible in its ability to generate case numbers. This functionality is implemented through database triggers and can be changed to support any of the methods listed above. Many of the business rules in the CMS are implemented in the database to allow for quick modification without changes or rollouts to the client workstations.

    - *Can an authorized user override the CMS assigned case number?*

The CMS supplies a task that can be used to modify or correct a case number.

- *Explain any restrictions on the case numbering.*

  There are no current restrictions on the case number. In the database, an internal case identifier is used to define a record. The case number is used as an alternate key on the database. This column can be modified to meet any requirements of the State.

- *Does your CMS support the assignment of one case number to a traffic or ordinance violation case in addition to a citation number? Can multiple citations be included under one case number? Can citations and cases filed by complaint by the district attorney be included in one case?*

  Our CMS supports assigning a separate citation number to a case number. At present, only one citation number may be associated with the case number although several traffic charges can be associated with the charge and citation. Citations and cases filed by complaint can be tracked under a single case. The case subtype is used to track if the case was filed by complaint.

13. *Describe how the CMS handles consolidation of cases (combining two or more cases under one case after they have been filed separately and were assigned separate case numbers).*

    CMS has a menu option to consolidate two cases into a single case. This functionality copies the charges and other pertinent data from the old case to the new consolidated case. A reference is kept to point the old case to the new case number.

14. *Describe how your CMS handles bifurcation of cases (permanent splitting of one case into two or more cases).*

    CMS has a menu option to copy a case into a second case. This functionality copies the charges and other pertinent data from the old case to the new case.

15. *Describe how your system handles coordinated cases (cases that are related to each other, are assigned to the same judge, and possibly scheduled for a joint hearing, but with separate case numbers).*

    The CMS treats each as an individual case.

16. *Describe any capabilities of your system to copy or replicate information from one case to another (e.g., parties docket entries, minutes).*

    The CMS contains two options for replicating information on a case. The first option is to replicate an entire case. Using this function, all details of the case are replicated to the new case. The second replication option is to replicate all relationships (parties) of one case to another.

17. *Describe how your system handles case management tracking, based on "tracks" or categories (related to office-defined characteristics of the case), and user-defined time standards or milestones. Describe how your system tracks and reports case status based on court-defined milestones.*

Once a track has been identified for a case, database triggers automatically populate various case tracking events that can be used to define time standards or milestones. Reporting of case status is determined.

18. Describe the security levels and types of access restrictions provided by the CMS, including:

- *How the CMS restricts the update, deletion, and retrieval (viewing) of information.*

  The CMS uses views for access to the information stored in the Oracle RDBMS. These views combine information for the various tables in the database with security information stored for the current user. The CMS uses profiles that are established in the Oracle RDBMS. These profiles indicate the views to which a profile has access and the type of access that has been granted. Each user belongs to one or more of these security groups.

- *How and at what level restrictions can be applied – to individual users or groups of users, at the case level, case type level, individual record level, module (e.g., all accounting functions), individual functions, groups of functions, or other method.*

  Besides the restrictions identified above, various levels of security can be implemented at the application level. Using the application security features, administrators can restrict access to menu items or screen fields.

- *Whether access to portions of sealed case information (e.g., party names, individual documents), can be restricted without restricting access to the entire case.*

  The CMS currently restricts access to the entire case for sealed cases.

19. Describe the public access functions of your CMS.

The CMS comes with a default public access security profile. This profile contains read-only access to the data. This profile also restricts access to all but the search capabilities of the system.

20. Describe how notices and forms are produced by the CMS and what aspects are customizable by the court (e.g., notice headings, notice text, font, spacing, and graphic elements such as a court seal, placement of data). Does the system require an interface to a commercial word processor to generate forms and notices? If yes, which commercial word processors are supported and which does the vendor prefer?

The CMS using Microsoft Word 95 or greater to produce all notices and forms. The CMS uses Word's mail merge capabilities to create document templates that merge data from the repository with the template to create the final document. Any of the standard documents supplied with the system can be customized using any feature of Microsoft Word. New documents may also be created and defined within the system.

21. Describe the register of actions/docket created by the CMS. What information is included on a register of actions/docket? Can the register of actions be printed/viewed on-screen? Can the user print/view the register of actions/docket entries for a specific date range or a specific item from the R of A? Can the R of A for a case be viewed/printed both in chronological order and reverse chronological order? Do future hearing dates post to the

register of actions? Describe any customizable features of the register of actions. Does the R of A allow for drill-down to detailed case information, or images of filings, orders, etc.?

Each case within the CMS contains an entity known as events. These events act as a progress docket for the case. This progress docket maintains a list of past, present, and future actions for a case. Each event tracks the following elements:

- Event Type
- Event Subtype
- Event Date and Time
- Event Location
- Jury Requirement
- Event Requested By
- Event Result
- Associated Name

From the case search screen, a user can search for a list of cases that have a particular event and establish the range of dates in which the event occurred. After selecting a case, all events can be viewed/printed for the case in both chronological or reverse chronological order. These events are used to track all court dates for the case. The list of events and subtypes are codes defined within the system and can be configured by the user.

22. Describe how the CMS performs physical case file tracking.

The CMS has a file check-in/check-out process that is used to track the location of the physical file. This functionality is intended to be used from a centralized filing location.

23. Describe how your system accommodates confidential attorney or clerk notes on a case.

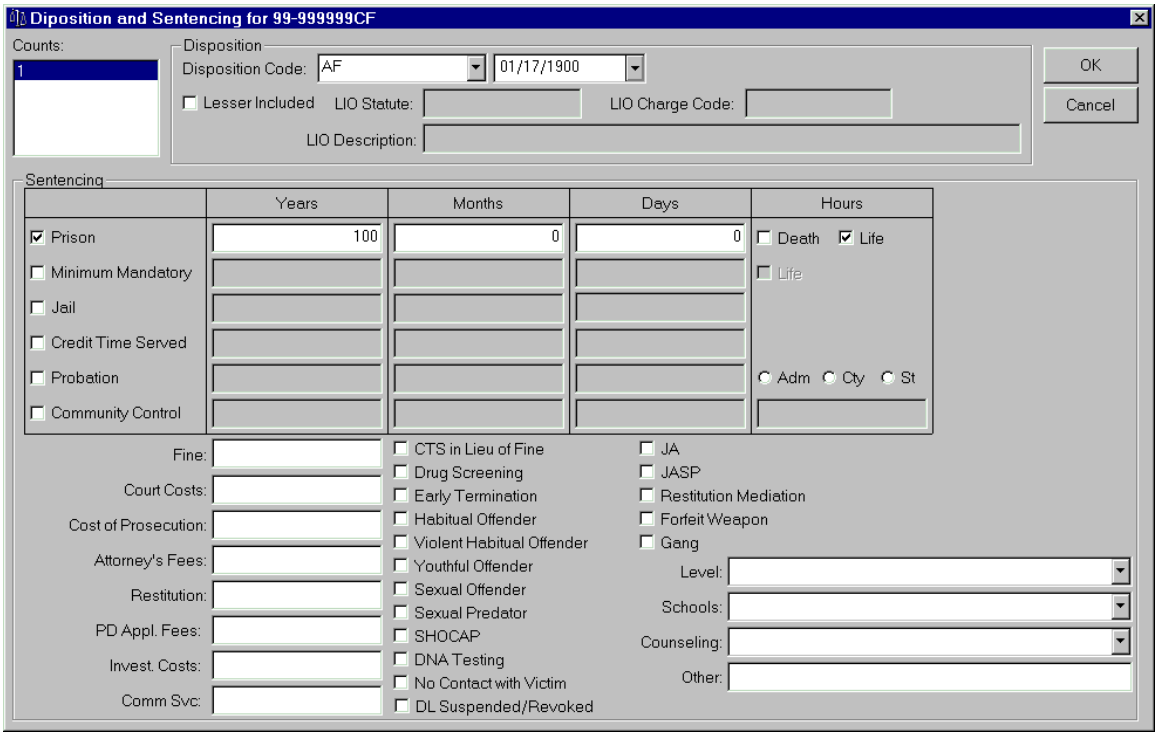
Each user profile contains an office code to track the office to which the user belongs. Each case type implements the following features:

- Relationships
- Events
- Confidential Case Notes

The confidential case notes create a series of notes on the case that can be viewed by the office of the person that created the note.

24. Describe how criminal and traffic sentencing information is recorded and what type of data is supported.

The sentencing screen of a case is code driven and allows entries for each sentence component. This provides a very flexible means of entering sentence information, but is inefficient for use in the courtroom. The CMS contains a single screen to dispose of a case.



The top portion of this screen contains the charge disposition of information. The bottom portion of the screen is used to quickly enter the components of the sentence. This information is then converted to the appropriate codes and stored in the details of the case.

25. *Briefly describe the capabilities of any report generating function provided with the base software product. What options are available for using third party reporting software to produce custom reports from the CMS database (e.g., ODBC-compliant, proprietary products, etc.).*

    CMS uses CA's CleverPath Reporter to generate all reports. The various Judicial Branch offices can use Reporter to define their own reports and these may be defined to the CMS repository and appear as canned reports within the application.

26. *Describe tickler functions for tracking various cases and accounting related milestones, time-lines, and other activities (e.g., filing of a document, payment of a fine, fast track guidelines, etc.). Can multiple ticklers be assigned to individual events?*

    Tickler functions are implemented through the events. To establish the ticklers automatically, Computer Associates will implement triggers on the database to automatically populate the events. Using this feature, multiple triggers can be assigned to a single. Using Microsoft Outlook with our Event Processor allows for administrators to publish interest in the event and automatically receive an e-mail, add to their task list, or populate their schedule.

27. *Describe how your system tracks custody status for adult criminal defendants and juvenile offenders.*

    In current installations, the CMS is linked to various Inmate Management Systems. With these links, the CMS is provided with detention and release information. Computer Associates has written various programs to facilitate the import and update this information

within the CMS. CA's Jasmine *ii* Enterprise Application Integration suite is a part of CMS and its capabilities can be leveraged to craft specific interfaces to legacy and other agency systems.

28. *Describe how your system tracks and reports speedy trial deadlines for individual adult criminal cases.*

    As a case is added to the system, a trigger determines a speedy trial date depending on the case type for the adult criminal case. This speedy trial date is then added as a future docket entry.

29. *Describe how bench warrants are created. Does the generation of a bench warrant trigger a change in the case status?*

    Adding the warrant event to the docket entry for the affected cases creates bench warrants. The warrant document can then be generated. At the time the warrant event is added to the docket, the case status is automatically closed as an active case. When the arrest is made, the case will be reopened.

30. *Explain how your codes are activated and deactivated so that old entries are maintained, but new entries of deactivated codes are now allowed.*

    Using the CMS Code Administration feature of the system, an administrator can deactivate a code. The system does not allow for the removal of a code. When a code is deactivated, it no longer appears as a selectable option from the dropdown selection. The code is maintained for historical purposes.

31. *Describe automated calendar features.*

    Besides the calendaring features using the Event Processor (See Question 26), the CMS has a scheduling module. This module allows users to establish a schedule for a Judge. Selecting the Judge and reserving a block of time for a particular court event initiate the scheduling process. In reserving the block of time, the user selects the minimum and maximum number of cases to be heard during this time. By entering both the minimum and maximum, the scheduling process allows for the intentional overbooking of cases to take into account cancellations. After defining the block of time, cases can be added by entering the case number to be heard.

32. *Describe any scheduling features or edits that prevent scheduling when a conflict exists for one or more participants (e.g., judge, officer, or witness availability).*

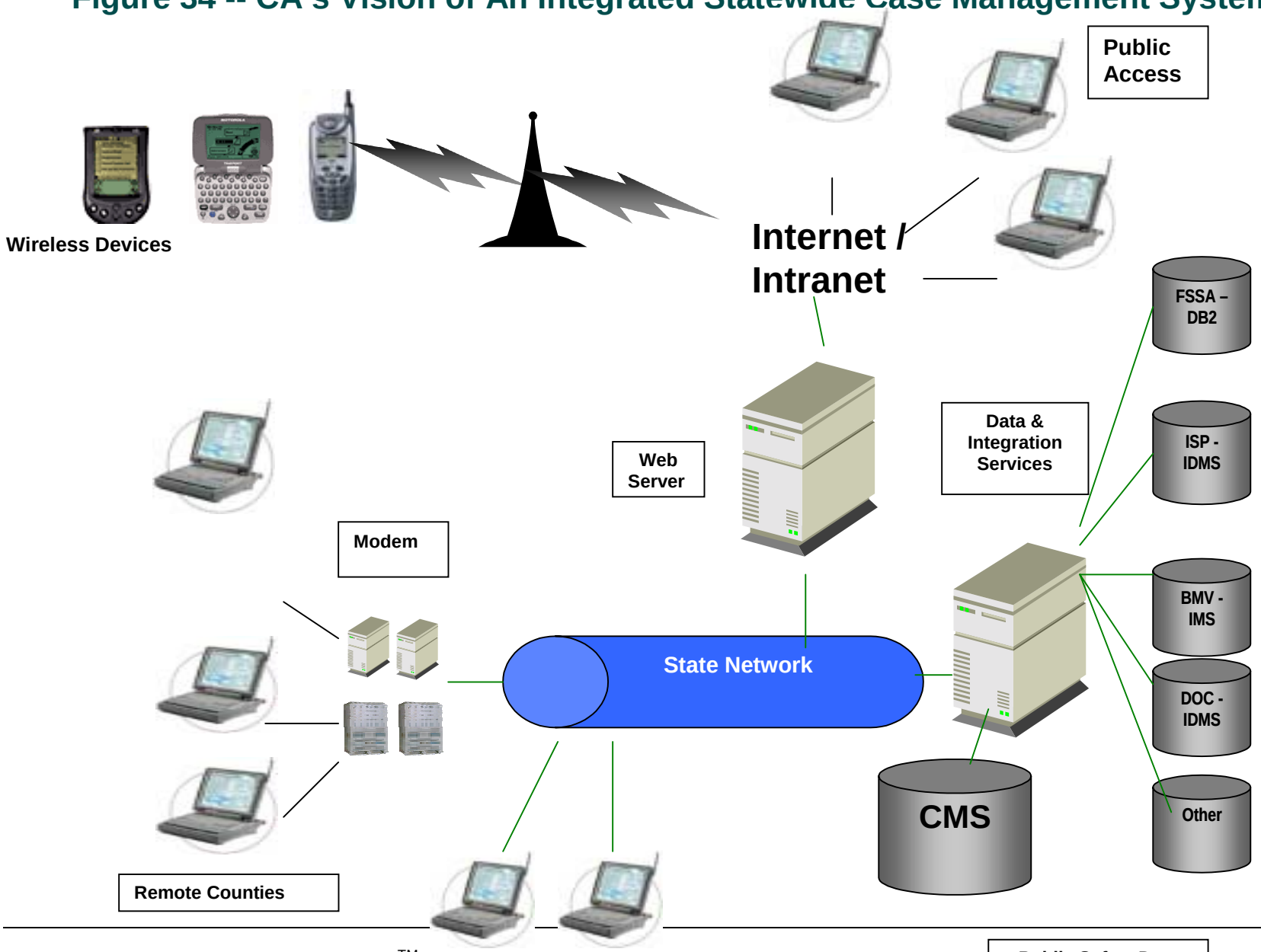
    The CMS does not contain edits to prevent scheduling when a conflict exists. A trouble report exists that shows all scheduled cases where a conflict exists.

33. *Many vendors separate criminal and civil/family data. My Court is working towards a "one family, one judge" concept that requires us to be able to understand the full range of involvement a family has with the Court at a given time. How does CMS support this goal?*

    "Out of the box," CMS provides a common directory for all persons tracked by the system. Thus, an inquiry on a specific person will return all the cases with which that person is involved, as well as their role in that case. Since roles in CMS are defined by the agency implementing the system, additional parties could be associated with a case to

provide a basis for an integrated family information system. Probation officers and others (i.e., child protective service, Medicaid, and other professionals) could be associated with a case as well.

Figure 34 -- CA's Vision of An Integrated Statewide Case Management System



Section 3. Company Qualifications

3.1 Description of Company

Computer Associates International, Inc. (CA) (NYSE: CA) delivers the software that manages eBusiness. We have a rich 25-year history of developing and supporting software solutions for more than 99% of the Fortune 500® in more than 100 countries. We offer leading technologies through strong brands in flexible partnerships to help our customers derive full value from their software investments. CA's world-class solutions address all aspects of infrastructure and information management.

We know what it takes to deliver and support valuable solutions 24 hours a day, seven days a week, 365 days a year while maintaining the highest standards for quality and innovation:

- We are the first and only global enterprise software company to meet the exacting standards for worldwide ISO9002 certification.
- We have earned 130 patents for innovative software solutions with many new applications pending.
- We have the highest caliber of eBusiness software developers and consultants in the industry.

We are committed to delivering eBusiness management solutions that offer security, reliability, availability and performance to help our customers meet their changing business needs. Because when our customers succeed, we succeed.

CA's Strategy

CA has the world's most comprehensive and advanced portfolio of software solutions that manage eBusiness. We have streamlined this portfolio into three strategic categories and six core solutions known as our **3 x 6 Strategy**. Our three strategic categories address areas where customer demands are greatest: eBusiness Process Management, eBusiness Information Management and eBusiness Infrastructure Management. Across these categories, CA delivers market-leading solutions in enterprise management, security, storage, portal and business intelligence, database management, application life cycle management and application development.

Powerful CA brands support these areas:

- **Unicenter®**, recognized as the industry standard, is the premier enterprise management solution,
- **BrightStor™** is CA's brand for comprehensive, high-value storage management solutions,
- ***e*Trust™** delivers award-winning, bulletproof security that makes CA the leading supplier of security solutions today, safeguarding business-critical resources across the enterprise,
- **CleverPath™** delivers unique portal, business intelligence, predictive analysis and visualization capabilities,
- **AllFusion™** is CA's family of comprehensive solutions for modeling and life cycle management,
- **Advantage™** is CA's family of leading application development, enterprise reporting and industrial-strength databases, as well as the services needed to rapidly integrate applications, databases and business partner systems,

- **Jasmine®** is CA's family for object-oriented solutions.

These brand families demonstrate CA's commitment to providing solutions that solve business challenges. With our many products and solutions, CA is focused on clearly communicating our technology offerings. CA will continue to provide comprehensive solutions in both infrastructure management and information management.

At a time when demand is exploding for eBusiness management software solutions, CA has never been better positioned to help customers meet their business needs.

The CA Commitment

At CA, we know customers have complicated businesses. We are committed to offering simple, meaningful solutions in an uncomplicated way. We work hard to achieve the highest quality in our solutions to help our customers meet their changing business needs. That's why CA became the first and only global enterprise software company to meet the exacting standards for worldwide ISO9002 certification. More than 200 CA offices in over 40 countries participated in this process, underscoring our total commitment to quality on behalf of our customers.

But we have taken our customer commitment one step further. We built an organization around it – the CA Client Relations Organization (CRO). From implementations to technical support to ongoing client education, we offer a wealth of resources for every customer.

We start with Relationship Managers, whose roles are to help customers get what they need from CA quickly and easily. Our Client Relationship Managers (CRMs) ensure that we understand our customers' business needs and that our clients have an easily accessible interface with CA. Technical Relationship Managers (TRMs) focus on understanding our customers' IT environments and work with them on technical related questions and issues. The CRMs and TRMs work with representatives from CA's sales, pre-sales and post-sales organizations to ensure that we are focused on understanding your company's strategy and direction, and that we are delivering solutions to help you surpass your goals and resolve any challenges that may arise along the way. We customize partnership summaries to highlight areas in which our organizations engage. These summaries focus on areas such as education classes attended, new software licensed and onsite visits conducted by your CA account team, just to name a few.

At CA, we know it all comes down to **delivering value** to our customers. We are committed to earning your respect as a valued partner.

CA Services

Markets change. Technology evolves. And today's business needs are more complex than ever. In this challenging environment, customers need high-quality, fully supported integrated enterprise software solutions that solve their eBusiness needs. CA offers comprehensive education programs, unparalleled technical support and professional services to help you get the most out of your eBusiness solutions.

- **CA Education**: The more effectively you know how to use your products, the more they will contribute to the success of your business. CA is committed to helping your staff take advantage of the product functions that work best for you through tailored education. Our CA Education team designs classes to teach your team job-specific skills, what each product function can achieve, how to implement these functions and how best to use them in daily operations. We provide real-world exercises and

workshops that help make your installation more effective. We believe strongly in devoting resources to help you get the most out of your eBusiness solutions because when you succeed, we succeed.

- **CA Technical Support**: CA has more than 40 technical centers in 22 countries where our experts work around the clock to support customers in numerous languages. Our technical support team works closely with our research and development and professional services groups to support your eBusiness solutions so that you can concentrate on running your business. We also offer eSupport, our online technical support resources. Our portal, developed and managed entirely by CA software, enables easy access to product newsletters, knowledge-based search engines, detailed product sections with FAQs and available patches, and Open Forums to communicate with other users.

- **CA Professional Services**: CA offers fee-based services to support installation and implementation of CA technology worldwide. Our CA Professional Services team works directly with our research and development and technical support teams to offer a current understanding of the latest industry trends and product capabilities. We use proven methodologies for project management, including a best practices library and an express services configurator, to help you capture the greatest value from your software investment.

We know what it takes to deliver and support valuable solutions 24 hours a day, seven days a week, 365 days a year. We also know our customers expect us to stand by our commitments. And we do

Consolidated Balance Sheet

Computer Associates International, Inc.
2nd Qtr - FY 2002

Condensed Balance Sheets
($ in Millions)

	09/30/01	06/30/01	% Change
Cash & Marketable Securities	543	657	(17%)
Trade & Installment A/R, net (1)	1,181	1,254	(6%)
Other Current Assets	85	107	(21%)
Total Current Assets	1,809	2,018	(10%)
Installment A/R, net (2)	2,428	2,547	(5%)
Property & Equipment, net	761	769	(1%)
Purchased Software, net	2,085	2,202	(5%)
Goodwill & Other Intangibles, net	5,154	5,279	(2%)
Other Assets	212	210	1%
Total Assets	12,449	13,025	(4%)
Loans Payable & Current Portion of LT Debt	875	1,073	(18%)
Other Current Liabilities	1,420	1,295	10%
Long Term Debt	3,071	3,073	-
Deferred Income Taxes	1,495	1,682	(11%)
Deferred Maintenance	429	468	(8%)
Stockholders' Equity	5,159	5,434	(5%)
Total Liab. & Equity	12,449	13,025	(4%)

3.2 Skills and Experience

CA has nearly 4,000 advanced technology consultants and systems engineers in offices across the country and around the world. CA's proposed project team (see below) has the technical depth and breadth to fully meet and exceed the technical requirements of this proposal, and, as demonstrated below, has the ability to deliver proven solutions to Judicial Branch agencies.

Public Sector Experience

Computer Associates' Public Sector Practice focuses upon empowering local, state, and federal agencies with appropriate business applications of technology. CA prides itself in working with government institutions to help them increase productivity, enhance operations, and attain substantial cost-savings, and return-on- investment. Our expertise with technology assessments, criminal justice systems, automated workflow processing, enterprise network management, and Internet, intranet, and extranet solutions has delivered extensive technical and business value for the groups' employees, vendors, and clients. CA's team of professionals includes former appointed and elected government officials who understand the processes, divisions, and operations of local, state, and federal government. Areas of CA's significant expertise and enhanced client value for local, state, and federal departments of government include Consulting Services, Technology Services, and Education Services. Within these areas, major ventures are:

- Planning, assessment and system design
- Integrated Justice Information Systems
- Educational Services Support Systems
- Product Services for CA products

CA has worked extensively with government organizations including the Department of Energy, the U.S. Postal Service, and State Departments of Education. CA's niche market is in assisting government entities in the planning, selection, and installation of enterprise computer systems and networks.

CA has extensive operations and information systems management background in the Government Sector. CA's regional Public Sector Practice has the mix of government and technical expertise best able to execute the project described in the proposal. Our Practice Director, Robert Womack, has been a long time consultant to the National Center for State Courts and has played an integral role in case management system projects in multiple jurisdictions.

CA has an earnest commitment to the Public Sector market. Recently, CA began a reorganization process that will result in a sharper focus on Public Sector clients. CA is actively recruiting additional professional resources for this market and has already organized technical and functional teams dedicated to education, courts and integrated justice. CA strongly intends to maintain its commitment to local and State government clients into the future.

Projects Successfully Completed by Computer Associates

CA Services has an extensive list of successfully completed projects that are relevant to the services requested for this project. The following clients may be of particular interest to The Indiana Supreme Court. They are presented here to demonstrate CA Services' technical depth,

as well as its understanding of, and experience with, government agencies involved with law enforcement and judicial administration, Internet/intranet development projects, and knowledge management/collaboration projects.

20th Judicial Circuit Court of the State of Florida	
Contact Name:	Mr. Dennis Pearlman
Telephone No:	(941) 335-2735
Contact Procedure:	Contact Directly
Project Time Period:	June 1997 - December 1999
Staff and Functions:	Project Management and Staffing
Contract Cost:	$1.5 million
Completion Dates:	December 1999
Computer Hardware:	Client – Dell Pentium 166, Server – Sun 4500
Systems Software:	Windows 95
Programming Languages:	Visual Basic, Oracle, PL SQL

CA Services recently developed a case management system for the 20th Judicial Circuit Court, which integrates the information from the State Attorney's Office, Public Defender's Office and Court Administrator's Office to create and track cases. CA Services believes that this is one of the first CJIS case management systems to be integrated at the local level. The application is written in Visual Basic and runs on an Oracle Workgroup Server. CA Services' CJIS is currently used by five Southwestern Florida counties, with a combined population of nearly one million.

Migration Defense Intelligence Threat Data System (MDITDS)	
Contact Name:	Daniel A. Proko Jr. Government Program Manager Defense Intelligence Agency/DI-OS2A Bolling AFB Washington, D.C. 20340
Telephone No:	202-231-8218
Contract Cost:	$29 million
Computer Hardware:	Hardware architecture is dependent upon the operational site requirements (i.e., number of concurrent users, specific application modules loaded, etc.). Hardware included systems from Sun and DEC (Compaq).
Systems Software:	Solaris, DEC Unix, NT
Programming Languages:	X.509 V3 digital certificate specification, X.509 V2 certificate revocation list specification, secure socket layer, ANSI C, Perl, Java, JavaScript, SQL

MDITDS is a large-scale, classified, project spanning multiple support roles. CA's Sterling Software Unit provided software development, configuration management, quality assurance, system and security architecture, systems operations, and ACTD support. MDITDS is an attempt to migrate the functionality of multiple legacy systems into one system that supports

multiple communities of interest. The system is designed to provide a web-based application in support of intelligence assets ranging from the national to the tactical perspective.

State of Connecticut Judicial Branch	
Contact Name:	James R. Maher, Esq.
Telephone No:	(860) 722-5897
Contract Cost:	$500,000
Computer Hardware:	N/A
Systems Software:	N/A
Programming Languages:	N/A

CA Services has undertaken a number of projects for the State of Connecticut Judicial Branch, working through its partner, the National Center for State Courts. CA Services was initially engaged by the Branch for two business process reengineering projects involving the Branch's overall technology functions. The first project resulted in recommended realignments to enhance overall service to the Branch. The second project involved identification of organizational and process improvements for the Branch and development of a plan to implement the suggested improvements.

3.3 Other Relevant Qualification

Computer Associates is in the news worldwide, being recognized for achievements such as these:

- *Fortune* magazine named CA one of "America's Most Admired Companies." CA, given the second-highest ranking (after Microsoft), was rated No. 1 in social responsibility.
- *Information Week* named CA's Unicenter one of the "10 Most Important Products of the '90s," the only enterprise management solution selected for distinction.
- *PC Computing* magazine named CA's eTrust™ Intrusion Detection[2] the "Most Valuable Product for 1999."
- *Java Developer's Journal* named CA's Jasmine® *ii* "Most Innovative Java Product of the Year."
- CA's InoculateIT™ Personal Edition received *PCWORLD.com's* acclaimed "Editor's Pick" award, and the Network Computing 2000 Well-Connected Award in the category of Enterprise Security.

The explosion of Internet computing by dot-com start ups and long-established companies is driving global demand for scalable, stable information technology (IT) solutions to power eBusiness. To make their eBusiness infrastructure safe, secure and available 24 hours a day, many organizations are turning to CA.

There's a gap between wanting to be an eBusiness player and becoming one, and CA provides cutting edge Internet solutions in a way that no one else can. Its 24 years of business software experience has given the company a depth of knowledge that is unsurpassed and a track record that is nearly impossible to beat. The recent acquisitions of PLATINUM Technology and Sterling Software furthers CA's unique position as a provider of the world's most powerful and complete environment for end-to-end eBusiness.

Computer Associates and its employees are involved in a wide range of charitable programs and philanthropic activities, including Habitat for Humanity, the Make-A-Wish Foundation, and the National Center for Missing and Exploited Children. CA's far-reaching humanitarian efforts comprise a generous company- sponsored Matching Charitable Gifts Program, private contributions from officers and employees and millions of dollars in corporate donations. In March, CA announced a $20 million commitment to The Smile Train, an international children's charity and medical organization dedicated to eradicating cleft lips and palates. CA donated $90,000 to the American Red Cross following Turkey's devastating earthquakes in 1999.

The company received the 2000 Dale Carnegie Training Leadership Award for its continuous demonstration of superior leadership in human resources development, in alignment with its dedication to promoting people-friendly, family-friendly and environmentally friendly corporate policies.

[2] eTrust Intrusion Detection is part of the eTrust™ suite of products, which includes eTrust Access Control, eTrust Firewall, eTrust Intrusion Detection, eTrust Single Sign-On, eTrust Audit, eTrust Admin, and 7 other eTrust applications.

Section 4. Implementation Overview

4.1 Computer Associates' Project Methodology

Computer Associates' CA Services uses a Best Practices Project Management Methodology when engaged in consulting, implementation or development projects for our Clients. This standard methodology includes defined, repeatable processes for:

- Project Definition
- Project Initiation/Planning
- Project Tracking and On-Going Project Management
- Project Completion

These standardized project management activities provide consistent, repeatable processes for Project Teams that:

- Increases Client satisfaction and project quality
- Improves project estimates
- Reduces costs and problems within the project

A high level, abridged description of the CA Best Practices Project Management Methodology is provided below.

Project Definition Phase

Identifying the Client's needs and gathering the Client requirements is the first step in the project lifecycle. The Project Definition Phase ensures that the project is properly scoped and that the correct solution is being proposed. During the Project Definition Phase, needs assessments are conducted, and Project scoping and acceptance processes are detailed.

The following information is gathered during the Needs Assessment task(s):

- **Current Environment**

  Define the current business and technical environment of the organization. This includes:

  - Business functions, processes, constraints and assumptions
  - Location topology, functions, constraints and assumptions
  - Organization size, support structures, constraints and assumptions
  - Customer targets, niche markets, constraints and assumptions
  - System architecture, constraints and assumptions
  - Network architecture, constraints and assumptions
  - Data architecture, constraints and assumptions
  - Application architecture, constraints and assumptions
  - Technology architecture, constraints, capabilities, standards and assumptions

- **Business Goals and Objectives**

  Most projects are initiated based on goals or objectives that cannot be met with the current business and technical architecture. These goals and objectives form the "Client Vision Matrix (CVM)", and typically include defining general business objectives by function and workload scheduling.

- **Business and Technical Requirements**

  The Business and Technical Requirements list contains a collection of all functional, business and technical requirements that the business units have identified as elements required to meet the organization's business needs, objectives and goals. This requirements list provides more detailed information related to the business needs, including the issues to be solved.

- **Project Constraints**

  All projects have constraints. These constraints may be driven by a number of variables, including the customer, the market, the technology, executive management, staffing, or location. After identifying the business goals, objective, requirements, and services required, constraints to successful implementation of the project must be determined.

- **Anticipated Benefits**

  Projects are initiated based on current issues and perceived benefits or return on investment that will be obtain from a solution. To determine whether the project success is feasible, the Client's expectations when the project is complete must be defined.

- Define Background and Scope

  The Client background provides an overview of the business and technical environment. The current Client architecture provides the starting point for the project. The background includes a company overview, Vision Statement, Mission Statement, business goals, business architecture, and technical architecture.

  - *Overview* - An overview about the company in general; what they do, sales statistics, number of locations, etc. is prepared. Information is obtained from the annual report, marketing literature, web sites, interviews, etc.
  - *Vision/Mission Statement* - The company's vision and/or mission statement provides the blueprint for ensuring technology processes and solutions are in line with the overall company and/or enterprise vision.
  - *Goals* - The business goals and objectives in terms of sales growth, location expansion, customer service, cost reduction, etc. are defined.
  - *Business Architecture* - A high-level business architecture diagram for the current environment is developed by business function or lines of business.
  - *Technical Architecture* – A high-level application, information, and technology architecture diagram for the current environment is developed.

  The scope of the project will detail the Client's expectations, goals and priorities, and constraints:

  - *Expectations:* What are the overall expectations of the new solution (i.e. the system should be easy to use, process 50% more orders daily, provide seamless integration between distribution and accounting, provides sub 2 second response time, etc.) Expectations should be detailed by department, user roles, applications, and/or at the corporate level.
  - *Goals and Priorities:* What are the client's driving functional and technical requirements? A concise statement of measurable goals and relative priorities that can be used to make schedule and resource trade-offs as the project progresses should be detailed. A list of the high level applications and priorities (i.e. Financials – high; Warehouse Management – medium), as well as a list of

goals (technology options, detail transaction audit logging, minimal support requirements, security levels, etc.) should be prepared.

- *Constraints:* Define all constraints related to Time (deadlines), Money (budgets), technology (system must be supported on current hardware, lists specifications), etc. should be detailed.

- Define Approach

  The final step in the Needs Analysis is a summary of the solution alternatives (what potential solutions can be proposed that will solve the requirements), open issues to be resolved, a tentative strategy for moving forward, and the probability of success. During this stage of the analysis, business and operational objectives are measured, key elements of the objective are isolated, supporting functional organizations involved are identified, timing required to perform is established and the clear mission and goals for undertaking the project is established. Project objectives are identified and clearly documented as stated goals:

  - The Project Charter
  - The Project Benefits to be realized at the project's successful conclusion
  - Critical Success Factors (dependencies, risk assumptions and management and budget commitment)
  - Project Plan (activities, tasks, timelines and dates)
  - Project Deliverables

- Define Risks

  An integral part of project planning is identifying the potential risks associated with the project and planning ways to minimize their occurrence. Contingency plans should be formulated to cope with the impacts of any identified risks, should they materialize. Risks can be classified into three types: business, managerial and technical. Once risks have been identified and anticipated, they can be planned for, estimated and managed.

- Define Project Deliverables

  Deliverables are distinct pieces of the work product that can be individually examined for completeness, accuracy, and acceptance. Each deliverable is defined to be independent from other deliverables, and is described in sufficient detail to allow the definition to act as or form the basis of acceptance criteria. The deliverable will eventually be measured against its acceptance criteria to determine if the contract has been satisfied. Project deliverables can include any number of the following:

  - Periodic status reports
  - Project documentation such as a Requirements Document, Design Specifications, Systems Configurations, Operator Manuals, etc.
  - Software modules or whole turnkey products
  - Defined work level by a consultant category

- Develop Project Schedule

  Project scheduling involves balancing the various project commitments and objectives within identified constraints, such as budgets, priorities, timing, and availability of skilled resources. The schedule is an elapsed time-based commitment for performing the various activities and tasks comprised within the project. Effective schedules become an integral part of the project's success and help to measure project accomplishments,

guide the project teams' performances, keep the Client informed of progress and problems, and establish day-to-day priorities.

Scheduling activities is a dynamic process involving:

- Identifying and describing activity and task relationships - dependencies, sequences and priorities
- Establishing interim project milestones
- Developing resource loading and having staff assigned to the project, based on required skills and timing required
- Converting person-time to calendar-time project scheduling tool, allowing for overhead items such as vacations, training, meetings, etc.
- Charting the activities and tasks that have been estimated using graphic representations of the project to help to depict the conversion of person-time to calendar-time and to communicate the plans. Gantt Bar Charts and Milestone Charts are two types of illustrative activity charts that may be used.

- Create Statement of Work

The Statement of Work documents the project details and provides a written agreement between CA and the client of the work that is to be performed. The services to be performed are described in clear language, the timeframe, deadlines and duration of the entire project are stated, and fees for services are explained. Projects may not go forward without a signed Statement of Work detailing the project from the client.

Project Initiation/Planning Phase

- Project Administration and Control Procedures

Professional project management requires consistent and repetitious monitoring of all events while documenting the exceptions and resolving issues prior to reaching a crisis stage. The project management, monitoring, recording, and resolution processes in CA's Best Practices Project Management Methodology provides advance support to the project effort while providing safeguards against project drawbacks such as; schedule slippage, cost overruns, poor performance, deficiencies, or inadequate work products.

- Change Management Procedures

The Controls Analysis Process for change management is a defined set of activities that are used through the course of system implementation:

- Identify the most important outputs or results of a business activity, especially those on which the success of the business is dependent
- Describe the effect on the business if there were to be errors or failures associated with those outputs or results
- Identify and address the specific potential sources of error or failure in order to reduce the risk of their occurring
- Document proposed alternatives relating to issue analyses and considerations dominating the underlying decisions to favor one input, process, output or business result more effectively than another

- Ensure adequate disaster recovery and fail over processes are established using reliable back-up, archiving and recovery procedures to sustain developed systems

- Project Reviews & Status Reporting

  The Project Status Report is a standardized template providing the elements that require reporting and the format it is to be presented. While some reports may require additional or extended information due to size or complexities of the project, the general format of the template provides the essential information required. Project Reviews are formal reviews conducted by CA Services that detail the health of a project during the mid-term of the project and at its conclusion.

  In addition to Project Reviews and Status Reporting, CA Services provides Progress Reports and Project Reports to communicate its progress on a specified project deliverable or activity.

  - **Progress Reports** serve to communicate accomplishments and updates of project plans, identify problems needing resolution, identify any changes to project scope or resource requirements and document project activities for future review and assimilation purposes.
  - **Project Reports** include accomplishments and problem areas not usually identified in the project plan. The project status is always discussed in terms of delivery items, and the deliverables or task results are compared to initial project objectives and timetable or schedule. The goal is to measure actual progress against planned progress.

- **Change Management**

  Changes in project scope, requirements, or personnel have historically presented a severe problem to applications development staffs. To keep the project and the final solution on track, changes must be controlled, planned, and managed. The scope of change management includes the evolutionary development (the versioning) of the product, service, software, or systems as well as management of system change requests for modifications or improvements to the delivered services or products.

- Issue and Incident Reporting & Resolution

  To ensure that all issues are heard and acted upon, a process for reporting any perceived problems must be defined and communicated to project team and others involved in the implementation. This allows for timely escalation of issues until resolved. The CA Services Project Manager tracks each incident and historical information is maintained about the efforts made to the resolve the problem. Identification of the incident includes associating the incident with a specific project task from the Work Breakdown Structure. Assigning each incident to a Project Team member insures accountability and responsibility for incident resolution.

- **Milestones**

  A milestone represents the completion of an activity that must occur in a project time cycle to meet the project objectives. Milestones are accurately identified projected points in time that coincide with the completion of incremental steps or parts of work until the overall project or phase is completed. Once milestones are developed and agreed upon, they should change only through the formal change control procedures mutually agreed upon between the Client and CA Services as described above.

On-Going Project Management

Once a project is planned and initiated, execution begins. While the project is being executed, the Project Manager will continually track and manage its progress by:

- Maintaining the project schedule (including time and task reporting).
- Monitoring the progress toward project goals (including performance monitoring and issue management).
- Managing changes in requirements, staffing, and planned work effort (schedule and staffing assessments, and change or configuration management).
- Reporting the status of the project to CA Services management and the Client through various reporting methodologies contained in CA's Best Practices Project Management Methodology.
- Ensuring that all tasks and deliverables are being completed in accordance with the signed Statement of Work (including quality assurance reviews).
- Managing and reporting any risks associated with the project (such as on-going review and updating of risk assessments, status reports and reviews).

Project Completion

- Project Completion Summary

  In this phase the project is deemed "completed" and requires the performance of project closure. The Project Manager is responsible for reviewing the project plan to insure that all tasks are completed and appropriate acceptance forms have been signed off by the customer to confirm project (product or service) delivery meets the stated delivery requirements and schedule.

  During this phase, a number of activities will take place to assess the client's ability to take over and sustain the operation, administration and maintenance of the system or product delivered. The CA Services Project Manager will:

  - **Complete/Finalize Project Tasks** to ensure that all tasks are completed and documented as reflected in the Project Plan, the Statement of Work and related amendments regarding the completion and acceptance of work project and tasks.
  - **Review Deliverables versus Plan** to document and report changes to the original project plan and/or deliverable items list. This report will summarize and document all additions or changes made to project tasks or deliverables during the engagement period, and provide dates of notifications and acceptance of the project changes to the original Project Plan
  - **Assess Project Performance** to determine the positive progress of the Project in view of actual versus planned tasks, timetables, and resources used.
  - **Create Wrap-Up Memo** (project completion notice) to inform both the client and CA Services management of project completion status. The CA Services Project Manager will send the PCN to the customer's principal supporters and managers of the engagement.

- **Review project results with Client Management** to communicate to Client Management the project's results, benefits and acquired responsibilities of its successful completion**.**
- **Client Acceptance and Signoff** to ensure Client's concurrence on project completion and successes as applicable, and to gain endorsement of services performed as well as documented agreement of Project completeness.
- **Conduct End of Project QA Review** to report on the completion of a project using QA reviews to ensure that the project was conducted and completed successfully from the Client's and CA Services' perspective.

4.2 CMS Project Approach and Technical Proposal

This section describes CA's expertise in the areas of methods and services, the tools and skills proposed, the project management approach, and how PCNO requirements will be satisfied. (Please refer to Project Organization Chart in Appendix A)

Computer Associates recommends a nine-phase approach for the Project. Each project phase will have a predetermined set of milestones, tasks, and outcomes managed through CA's Evolution™ Project Management Methodology to meet each of the stated requirements. A detailed project plan will be managed on a daily basis to provide immediate feedback on project status. Computer Associates' approach and plan calls for the following nine phases:

- Phase P1: Project Initiation and Planning
- Phase P2: Requirements Analysis
- Phase P3: CMS System Design
- Phase P4: CMS Construction, Configuration and Unit Testing
- Phase P5: System Testing
- Phase P6: User Acceptance Testing
- Phase P7: Implementation
- Phase P8: Project Wind-up Activities
- Phase P9: Premium Support

After the deliverables have been completed for each phase, Computer Associates will prepare and organize an Executive Steering Committee Session (see below) to review the deliverables from that phase and the proposed revised project plan for the next phase. This meeting will be facilitated by a Computer Associates Program Manager and recorded by a Computer Associates Consultant. Computer Associates anticipates the Court will provide appropriate meeting facilities and conferencing equipment for these sessions. Once the deliverables and revised project plan have been approved, the next phase will commence.

4.2.1 Phase P1: Project Initiation and Planning

Project Organization and Management

CA shall act as Project Manager for the Project utilizing a temporary Central Project Office (CPO). The purpose of the CPO is to give direction to the Project, and practice oversight; monitoring, coordination, and evaluation of all project related activities. This CPO will exist only for the duration of the overall CA project.

Design of the project team organization structure ensures that both CA and the Branch are working closely together for overall project success. The CA team closely aligns with appropriate Branch project personnel at the project delivery level, and with executives within the Steering Committee. All CA resources and subcontractors that are supplied to the project by CA will report to the CA Program Manager

Executive Steering Committee

CA proposes forming an Executive Steering Committee, including key Judicial Branch participants, that will provide management oversight to the project teams for long-term strategic concerns as well as overseeing the day-to-day activities. CA and Judicial Branch Executive Management would jointly comprise the committee. Reporting to the Committee will be the CA and Judicial Branch Program Managers. Reporting to the CA Regional Services Manager will be the Central Project Office, lead by CA's Program Manager. The Program Managers will be members of the Steering Committee, with participation by individual project managers as required. The Steering Committee will convene on a scheduled basis and set policy, allocate resource, and resolve change in scope issues as they arise. A CA Project Manager will head multiple technology teams with CA and partner staff (as required) reporting to them.

The mission of the Executive Steering Committee is to ensure that the Court's business objectives of the project are accomplished. Its tasks are as follows:

- Address and approve schedule and budget changes
- Provide a suitable environment to enable efficient functioning of the project team
- Decide directions and issues presented to it by the Engagement Managers
- Review results of Project Reviews and Deliverables

Appropriate CA management personnel, usually from CA Services, Sales, and Area Executives, are included on the Steering Committee. Client membership is at a high management level -- one that is preferably broad enough to represent significant initial phase CMS stakeholders.

Project Charter Workshop

The Project Planning workshop is a vital part of this Phase. The CA Program Manager will meet with the Court's project team, and any other necessary Judicial Branch resources to confirm the desired business and operational outcomes. Support from Court Staff during these sessions will be required to ensure the solution is matched to the Court's business and technical needs. Preliminary training requirements for staff supporting the CMS rollout will also be identified and included as part of the Project Schedule. The CA Program Manager will:

- Confirm Judicial Branch requirements and expectations.
- Prioritize requirements (mandatory and desirable).
- Define project constraints.
- Identify a clear Branch project sponsor, other Branch team members, and internal Branch escalation process.
- Identify resource(s) to receive knowledge transfer.
- Discuss the methodologies, procedures, specifications, standards, measurement criteria, and management systems that will be utilized throughout the project.
- Discuss the deliverables, milestones, time-scales, and the review cycle.
- Determine project status reporting requirements and frequency.
- Review the current technical architecture.
- Discuss product maintenance considerations.
- Review the Branch's testing and verification procedures that will be used to validate the deliverables and milestones.

The following processes will be reviewed for clarification:

- CA and Branch Resource Tasking and Assessment
- Succession of Documents
- Acceptance of Deliverables
- Production System Integration Testing
- Knowledge Transfer
- Education and Training
- Quality Assessment

The CA Program Manager will then produce a baseline and leveled project plan with an outline Project Charter Document. This document is signed both by CA and the Client to demonstrate total commitment to the project and an agreed understanding of the deliverables.

It is understood the Pre-Implementation Planning and Construction/Configuration Phase will commence upon the execution of this document. Further implementation work cannot commence until these criteria are met.

Project Planning

This Project Initiation phase initiates the Computer Associates and Judicial Branch relationship, through a joint series of activities to logistically prepare both organizations to begin the technical phases of the project. These activities include:

- Executive management articulation of Project Charter and Scope: This is the high level bounding parameters of the project. The deliverable provided here would be a Work Breakdown Structure showing each Project Phase (Analysis, Design, Development, Testing, and Implementation) by time frame, resource allocation, task responsibility and task duration in hours.
- Preparation of a detailed project plan further identifying the nine project phases listed above, tasks within each phase, task and phase duration, assigned resources, deliverables, and key milestones.
- Development of a staffing plan identifying Computer Associates and Judicial Branch management and worker personnel, subject matter experts, and Judicial Branch personnel authorized to provide deliverable acceptance signatures.

At the conclusion of these project initiation tasks, Computer Associates will submit a series of deliverables for review by the Massachusetts's Public College. Included in these deliverables will be the following:

- Project Charter Document – the CA Program Manager will summarize the findings of the Project Charter Workshop. This information is included in the Project Charter Document. This is living document throughout the course of this project and will be modified to reflect the dynamics of the project.
- Detailed Project Plan – the Computer Associates Program Manager will produce a detailed project plan. This plan will serve as the baseline for the project. Through the remaining phases, the Computer Associates Program Manager will provide updates to this project plan to the Judicial Branch Project Manager.
- Staffing Plan – The staffing plan depicts the matrix cross-referencing business functional areas with client subject matter experts (SME). This staffing plan dictates the resources that will be used to gather, validate, and design the various aspects of the system.

At the conclusion of these project initiation tasks, Computer Associates will begin Assessment and Requirements Analysis Phase work for the Judicial Branch described above. In the Requirements Analysis phase, Computer Associates will work with Judicial Branch personnel to expand and define the functional requirements for the Project.

4.2.2 Phase P2: Requirements Analysis

At the conclusion of these project initiation tasks, Computer Associates will begin the Requirements Analysis for CMS. In the PNCO, the Court provided high-level functional, technical and data requirements for a unified case management system for Indiana. In the Requirements Analysis phase, Computer Associates Services will work with Branch personnel to expand and define the functional requirements for CMS. Computer Associates will also work with the Branch to secure user consensus on these requirements through a series of activities. These activities include:

- Knowledge Transfer – The Judicial Branch made a significant investment in development of its PNCO. Computer Associates intends to leverage this investment through a planned series of discussions so that we may use Branch knowledge of as a starting point for our detailed analysis efforts.
- Joint Requirements Planning Sessions - Based on the results of the knowledge transfer activities and structured interviews, Computer Associates will prepare and organize as many as eight separate Joint Requirements Planning sessions. The purpose of these sessions is to develop a consensus and signoff from all participants of the common Use Case functions and the best strategy for the total application and data storage.
- Logical Process and Data Modeling - Based on the results of knowledge transfer, structured interviews and Joint Requirements Planning sessions, Computer Associates will develop a high-level logical process and data models. These models will represent the business processes and data relationships. The existing data structures and representations from the current system will be reviewed and consulted as part of this process.
- Revised Project Scope and Project Plan – Computer Associates will also deliver a revised project scope and project plan based on its findings from the Requirements Analysis Phase.

Computer Associates will develop appropriate Use Cases from the requirements gathered during this phase of the project. From the information in the Use Cases, Computer Associates Services will obtain the following information:

- Identification of the logical entities and data elements requiring modification in the system
- Business rules that may dictate user interface design modifications
- Definition of a security plan that meets the potentially competing needs of open records and individual privacy, without unnecessarily restricting system functionality

The planned deliverables for this phase will include a requirements document detailing the following:

INTRODUCTION
REQUIREMENTS SECTION
Revised Project Plan and Scope

Refined Requirements
Objectives
Assumptions and Constraints
Use Case Definitions
Security, Audit, and Control Requirements
Definition of Product Scope
Business Flow Diagrams
Online Data Entry
Financial System Interface
Legacy System Interfaces (FSSA, ISP, BMV, DOC, Quest and ProsLink)
Logical Data Model Changes
System Users and Locations
Out-of-Scope Functional Areas

DESIGN PLANNING SECTION

Participant Matrix
Design Planning Information
Data and Activity Model
Business Process Diagrams
Requirements Matrix
Estimating Assumptions

4.2.3 Phase P3: CMS System Design

Based on the work in Phase P2, Computer Associates Services will perform a series of activities to develop a system design outlining the construction blueprint for the CMS. These activities will address the functional and technical information needed to support application construction. These activities include:

- Development of the Physical Data Model Changes - Having defined all of the data attributes, business rules and data dependencies required by the application in the functional design, the physical database will be designed. The design will take into consideration record volumes, data dependencies, expected annual growth, and performance characteristics. During the construction of the physical data model, Computer Associates architects will also determine the best implementation of certain business rules: in the CMS application, the CMS Financial System, or in the database in the form of triggers and stored procedures.
- Specification of Graphical User Interface (GUI) – Using the base CMS and Use Case functionality, the user interface will be defined. This definition will include the following:
    - Retrieval criteria for any data to be displayed on the screen. The specification will contain the actual SQL to be used for database selects, and will detail the lists to be used for any hard coded values.
    - Detailed instructions for all processes within the window functionality, especially any default processing that occurs when the window first opens before any user intervention.
    - A complete description of business rules and edits applied to the window objects. Descriptions will be provided for any fields selected or edited by systems users.
    - A complete description of all data manipulation that may occur during normal interaction by users.

- Definition of Legacy Interface Design – The interface design is used to provide the specification for an interface to and from other Judicial Branch legacy systems.

- Definition of QA Test Data – Based on the Use Case and GUI layout definitions, Computer Associates will generate a test bank of data that can be used to perform all unit, system, and acceptance testing. This test bank will later be loaded into the database.

- Development of Programming Specifications – The programming specifications includes the following items:
    - Description of the program
    - Identification of all input and outputs, record descriptions for any interfaces
    - Description of required interfaces
    - Screen layout pictures
    - Detailed processing descriptions
    - Control Reporting Requirements
    - Any SQL or application objects that will be required to develop the program

- Revised Time Frames – Computer Associates will also provide a revised Project Plan, with new time frames required for the remaining phases of the project, based on its work in Requirements Analysis and System Design Phases of the project.

The deliverable at the completion of this phase will be a design document defining the blueprint for the total system. The design will be based on prototypical screens and functionality. The document will include the following sections:

INTRODUCTION
Revised Project Plan Time Frames
Updated Requirements Matrix

EXTERNAL DESIGN SECTION
Screen / Report Layouts
Data Management Processes

INTERFACE SECTION
Interface Descriptions

DATA SECTION
Schema Object Definitions
Data Element Descriptions
Stored Procedure Descriptions
Trigger Descriptions
Backup and Recovery Plan

4.2.4 Phase P4: CMS Construction, Configuration and Unit Testing

In the development of the CMS, Computer Associates will perform the following tasks:

- Create Physical Database Objects – The database administrator will create the development and test schema objects using scripts generated from ERwin, CA's World

Class database design and modeling tool. (CA Services will leverage, when appropriate, existing CA technologies to speed development and employment of CMS.) After the creation of the scripts, the database administrator will perform database tuning to achieve peak performance of the database during normal operation. The database administrator will also prepare the database with the QA test data defined during the design phase.

- Construct User Interface – Computer Associates will use the GUI layouts and program specifications to develop the online user interface that will be used to maintain the system.
- Construct Business Logical – Computer Associates will use the Use Case information in conjunction with the process models and business rules to implement CMS business components.
- Development of Reporting Functions – Computer Associates will construct all pre-defined standard reports.
- Perform Unit Testing - Unit test cases are designed to exercise every line of code contained in a program. Computer Associates will create a detailed test plan, to thoroughly exercise the code in the program. The state of the data attributes before and after the test will be documented, along with a description of the business rules to be tested for the program. Unit Test results will be documented on the plan. Any deficiencies will be tracked in a defect tracking system and reported to the Branch's Project Manager.

At the conclusion of this phase, Computer Associates Services will submit the new CMS for system testing. In addition to the new application, Computer Associates will have the unit test results available for review at the discretion of the Judicial Branch's Project Manager.

4.2.5 Phase P5 and P6: User and System Testing

Computer Associates Services will coordinate and assist the Judicial Branch in performing structured system and acceptance testing for all modules and interfaces. Computer Associates Services testing will include tasks that verify the following:

- Process functionality of the data
- Entry, retrieval, update, and delete functions of the system
- Acceptable system response time
- All data management functions; and
- Management and statistical reporting functions

The deliverables from this phase include:

- System and Acceptance Test Strategy – The system integration test strategy begins with the results of unit testing and expands the boundaries of the test. Rather than concerning the test with a single unit of code, integration testing is more concerned with system navigation, and the flow of data between multiple units of code. The document will address the following topics:
    - Required hardware and software for the integration testing to begin
    - Objectives for each level of testing to be performed

- Entry and exit criteria defined
- Roles and responsibilities clearly defined
- Navigation requirements and flow of the testing defined

- System and Acceptance Test Results – System Integration test cases are designed to exercise every line of code that is contained in a program, and test the navigability between independent programming units. Detailed in the test plan will be the individual keystrokes that will be required to thoroughly exercise the code in the CMS and to navigate between windows and pop-up screens. The CMS Financial System must also be tested here, ensuring that all components are tested as well as menu items. The state of the data attributes before and after the test is documented, as is a description of the business rules that will be tested for the program. Any deficiencies will be tracked in a defect tracking system and reported to the Judicial Branch's Project Manager.
- Test Site Implementation – CA and the Judicial Branch will mutually select two pilot sites for the project. This site will be used as a final, pre-implementation check on all CMS customization and to test the Project's training approach and documentation.

4.2.6 Phase P7: Implementation

The final phase in the development process is the installation and training on the production version of the program. This phase is used to perform the tasks required to make the CMS operable, including:

- Creation of the production database structure
- Installation of the production CMS infrastructure
- Installation and configuration of a fully integrated CMS support infrastructure

The deliverables from this phase include:

- User and Technical Training – Computer Associates will provide formal training in all aspects of system usage and operation, including technical training, "train the trainer," "key user," and direct end user training. See "Training" below.
- Program and Interface Implementation – Installation and configuration of the components that comprise the eLIP will take place. The installation will be consistent with the overall application strategy identified in the requirements.
- Technical Documentation/User Manuals/On-line Help – Computer Associates will compile the hard copy user and technical manuals and all technical documentation (database definitions, source code, report writer documentation, system flow, etc.) in Microsoft Word. Computer Associates Services will convert user manuals into on-line help that will be accessible throughout the CMS Help System. Computer Associates will provide one copy of the technical documentation and the user manual to the Judicial Branch's Project Manager.
- Production Database Creation – The database administrator will create the production database and data warehouse objects using scripts generated from ERwin.
- Deployment Team Support Plan – With Judicial Branch managers, CA will jointly develop a deployment plan for the remaining counties/Judicial Branch agencies who have requested the CMS as of the conclusion of Phase 7. CA will provide appropriate management and technical staff to support continued deployment efforts under a

Premium Support Plan, to be agreed between CA and the Branch prior to the end of Phase 7.

4.2.7 Phase P8: Project Wind-up Activities

In this phase, Computer Associates' Program Manager will perform the various administrative and financial tasks to close down the project. These activities include a formal project closedown meeting of the Executive Steering Committee, presentation of a formal "after action" project review, as well as ongoing support services available from CA through the Client Relations Organization, CA Premium Support, and CA's various product support teams.

4.2.8 Phase P9: Premium Support

Computer Associates is well aware of the significant investments the Judicial Branch will make in CMS. CA's Premium Support program, described in Section 2.8, is a means through which customized post-implementation support, delivered via a dedicated support team, including, where appropriate, members of the original Project team, can be configured. CA believes this capability significantly differentiates our approach to project delivery and management in that it explicitly considers ongoing support needs unique to the Project itself.

4.3 Implementation Timelines

Please refer to Appendix D, below, for a high-level project timeline. **The project timeline is dependent upon the following assumptions:**

A project-start date of April 1, 2002.

- At least DSL or ISDN BR2 (128kb) IP connectivity to each CMS site.
- All CMS sites are on a common intranet.
- Redundant wide area connections are recommended at each site.
- Central server and development/test server are co-located in Indianapolis, IN.
- CMS implementation is prospective – no automated backfile conversion is planned.
- Project timeline assumes forms and report definition will be done by Branch staff under the supervision of the State's PM.
- Training will be performed by Branch training staff appropriately trained by the CA Project Team utilizing training materials developed by CA's Education Services.
- Deployment Phase work will be performed by Branch and CA project staff.
- Deployment Teams will consist of both Branch and CA staff. At least two teams, consisting of a trainer and two analysts, will be required.
- Standard Premium Support for post-implementation.

Highlights of this plan include:

- Initial rollout to Pilot Site 1 scheduled for mid-December, 2002.
- Marion County rollout anticipated following completion of work at initial site.
- Five-month implementation cycle in Marion County.
- Two implementation teams, with CA support, can complete CMS deployment to remaining counties by April 2005, assuming a ten-day install/train/monitor use cycle in each county.

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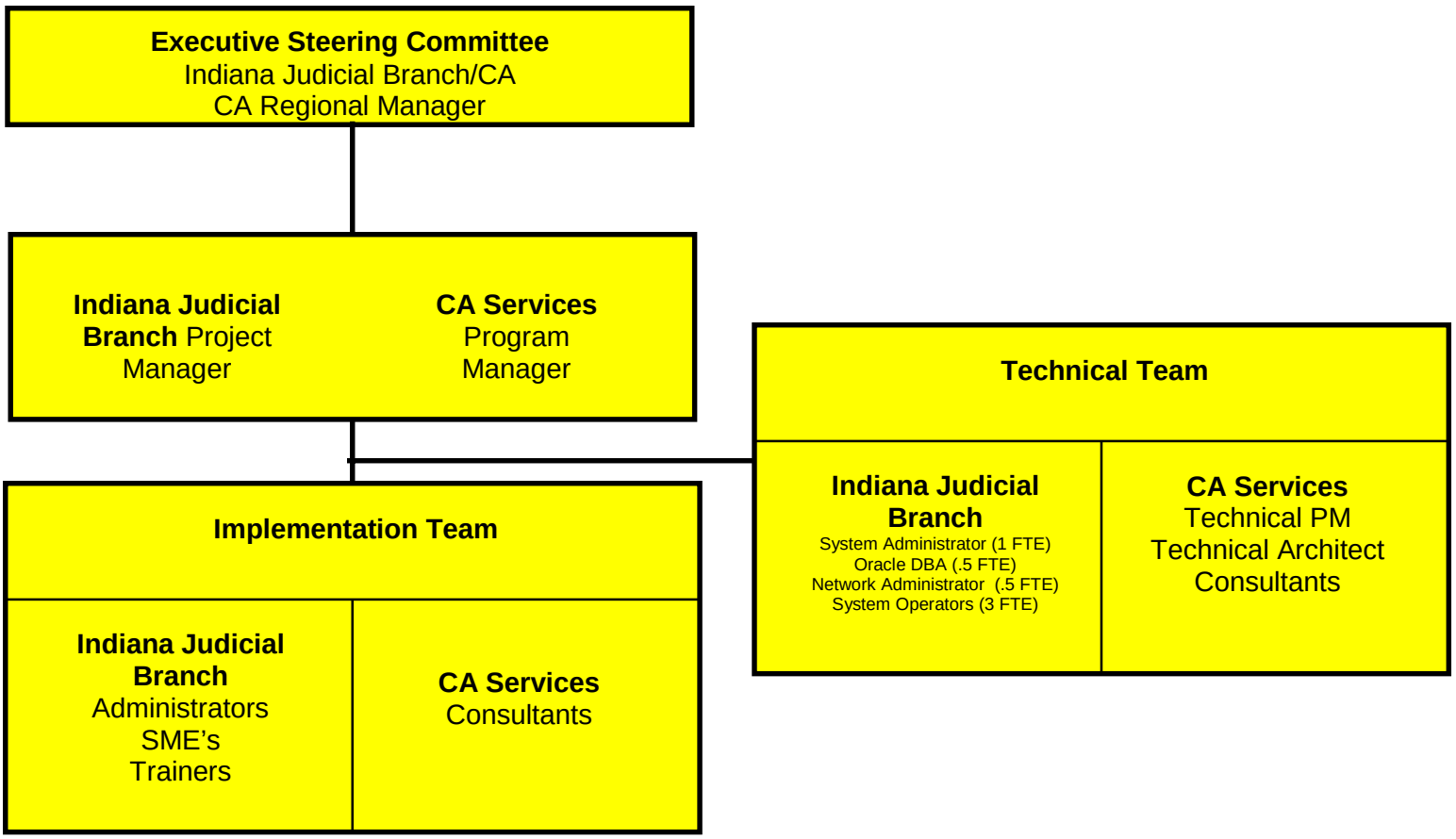
4.4 Key Personnel and Resumes

Figure 35 – Proposed CMS Central Project Organization



CA is proposing a skilled, knowledgeable team to address the needs of this project. Perhaps the single most important element of the proposed CA solution is the people. Beyond tools, methodologies, and approaches, it is clearly the quality of the project team that will ultimately determine the success of a project.

CA believes its team brings to this project both deep technical and subject matter skills. **All** candidates shown below have State and/or Local Government experience; shaded rows indicate candidates also having specific integrated justice/law enforcement systems experience.

Position	Proposed Candidate
Program Manager	Robert Womack
Technical Architect	Ben Balke
Senior Project Manager	James Mount
Network Architect	David Renaudin
Senior Consultant	James Booth
Change Management/ Training Manager	Hal S. Klein, PhD

The following resumes are presented:

Robert Womack: Mr. Womack is CMS Product Owner, a Director in CA's PSP Practice and will act as the Program Manager for the Project. CA Program Managers act in a Project oversight role and ensure the project has appropriate visibility to CA Executive Management. Bob has extensive governmental systems experience. He is based in CA's Framingham, MA office. Bob has over twenty-five years of experience in the design and implementation of case management systems. Mr. Womack has a broad knowledge IT management and governance issues. He is skilled in use of relational database technology, especially as implemented on Unix platforms.

Ben Balke: Mr. Balke has over 13 years of experience in information systems design and development, having served as project manager or principal architect on many large systems. Mr. Balke has assisted many large governmental organizations in planning and implementing large IT projects. Mr. Balke served as the project manager and principal architect on Computer Associates' CMS. Mr. Balke has a broad knowledge of various programming languages, database environments and delivery platforms.

David Renaudin: Mr. Renaudin is an accomplished consultant with more than 15 years of information technology and management experience, both for the private sector and for state and local governments. Dave is an experienced network designer and architect; skilled in development and planning of wide area network topologies. In mid-2001, Dave lead a review of the network infrastructure for the Department of Law and Public Safety of a mid-Atlantic state.

James Booth: Mr. Booth has over thirty years of experience as a financial systems developer and applications architect. Mr. Booth is experienced in development tools and languages on both mainframe and "open" platforms, including both Unix and NT. Jim is a certified instructor in CA's CleverPath Portal technology and is skilled in development and design of XML-based interfaces to the Portal. Most recently, Jim played a major role as senior software quality assurance consultant for a project developing a highly customized probation/parole management system for a New England state.

Hal Klein: Dr. Hal Klein has over twenty-two years of combined business experience, over seventeen years as a consultant with significant results-oriented project management experience and a solid record of achievement in operations. Hal manages an OD-oriented consulting group with client services including paper flow reduction, rightsizing, re-engineering, cycle time reduction, employee skills development [audio / video and computer-based], project facilitation, and outsourced personnel / human resource functions. Hal specializes in change management, with a focus on design of quality and training programs for field staff (operations, employee skills developers, trainers, computer support, human resources services).

Bob Womack

CMS Product Owner

Summary

Mr. Womack has an extensive operations and information systems management background and is experienced in strategic planning and implementation to provide competitive advantage. With over 19 years in the professional services/Judicial Branch sectors, Mr. Womack has a broad knowledge of information systems, operations, Internet/Intranet networking and call center management in governmental and professional services environments.

Representative Experience

Is now leading an engagement for the Judicial Branch of Government of a New England state to implement a statewide protective and restraining order system. In work for the same client in 1998, Bob managed a reorganization project of the Office of the State Court Administrator and those court agencies supporting the criminal justice system.

In 1999, Bob lead an engagement for the Division of Administration and Finance of a New England state to merge the IT functions of the state's revenue service agency into the state's IT service agency. Both business process engineering work and network infrastructure design work are required in order to insure seamless integration of the various IT functions.

Drafted Federal and state grant proposals that resulted in funding of the initial trial court effort towards a web based direct case filing system for Kansas Courts.

Developed and implemented an online interface for transfer of warrant and return data between executive and judicial branch information systems for a Midwestern county.

Lead implementation efforts for one of the first Internet/Intranet projects in a major law firm. Bob's work involved coordination of both Marketing and Information Resource functions as customer organizations responsible for site media development and content. The project was implemented using open architecture products from Checkpoint Systems, Netscape and Sun.

Installed one of the first wide area imaging systems used at a professional services firm, and developed a private ATM based network architecture for secure delivery of images and database content to clients and co counsel.

Held position as Director of Technology for a large law firm responsible for providing office automation, litigation support, time and billing, general ledger, Internet/Intranet, telecom, and trust operations services to the firm's three East coast offices, including its main office in Boston, MA. The firm's FDDI-based computer network included over 650 workstations and twenty two servers.

As a Consultant to the National Center for State Courts and Witan, Inc., of Kansas City, Missouri, Bob was responsible for leadership of complex trial court criminal and civil information systems projects. Work for the Center primarily involved hardware, software, and network analysis for various projects in the Center's Northeast Region, including work at both the trial and appellate court levels in Illinois, New York, Ohio, and Pennsylvania.

Company Affiliations

1999 – present	Computer Associates, Inc. CMS Product Owner, Framingham, MA
1998 - 1999	Computer Associates, Inc., Senior Manager, Ann Arbor, MI
1983 - 1998	Hale and Dorr, LLP, Director of Technology

Education

1973	MA, Government, Harvard University
1971	BA, Political Science, Rice University
	BA, History, Rice University

Ben Balke

Principal CMS Consultant

Summary

Mr. Balke has over 13 years of experience in information systems design and development, having served as project manager or principal architect on many large systems. Mr. Balke has assisted many large governmental organizations in planning and implementing large IT projects. Mr. Balke served as the project manager and lead architect on Computer Associates' CMS. Mr. Balke has a broad knowledge of various programming languages, database environments and delivery platforms.

Representative Experience

Has overall responsibility for delivering solutions for all criminal justice projects for Computer Associates, specializing in inmate management, booking, case management, and electronic medical records.

Served as principal architect and project manager for the development of a criminal case management system for a five county district in South Florida. Provided business re-engineering and automation design for processes involving the prosecuting attorney, the public defender and the court administrator. Delivered a common system that covers all functional areas for the three offices while maintaining security. Implemented a network design that created secure networks for each of the three agencies while not impacting response to the case management system.

Worked in both a pre and post sales role in consulting with the State of Connecticut for the use of the Protective Order module of the case management system to implement a statewide Protective Order Registry.

Act as the primary conduit for collecting user suggested enhancements to the Computer Associates' criminal justice product suite. Develop release plans for future enhancements based on these suggestions.

Managed a group of developers responsible for deliver platform independent, object-oriented solutions for a subcontractor to the Department of Energy. Systems were built to handle thousands of concurrent users on varying degrees of network availability.

Designed and developed computer-based training modules for various departments of a nuclear weapons facility. Training modules used a variety of technologies including simulation, laser-disc video enhanced with animation and linear video.

Company Affiliations

2000– Present	Principal CMS Architect Jacksonville, FL
1995– 2000	Computer Associates, Inc. Director, Jacksonville, FL
1989 **–** 1995	Westinghouse Savannah River Company
1988 **–** 1989	State of Illinois, Bureau of Information and Communications Systems
1987	State of Illinois, Board of Education

Education

1987	BS, Math and Computer Science, University of Illinois Urbana-Champaign

James Mount

Senior Project Manager

Summary

James Mount is an accomplished project/program manager with over 15 years of IT experience, servicing a variety of customers and industries. He has a successful track record in all phases of Enterprise Systems Management and applications development implementations utilizing multiple professional teams and a variety of Internet technologies. James is able to maintain a "big picture" approach while focusing on customer service and on-time delivery of quality products.

Representative Experience

While with CA, James has acted in a senior project management role, leading multiple teams of up to 15 professionals. His duties include analysis of business requirements, definition and design of IT solutions, creation of project Statements of Work, project estimating, creation of detailed project plans and schedules and the monitoring and control of the project execution.

James' recent projects have involved: 1) development of a probation/parole tracking system for an Executive Branch agency in a New England state, 2) implementation of CA's Enterprise Systems Management suite — Unicenter — specializing in storage management, network management, asset management and security management and 3) performing and managing business and technology assessments for a variety of business/IT areas, including merger and acquisition targets, software development, IT management, business case development, WAN/LAN expansion and Enterprise Systems Management.

All projects involved interfacing with CIO/CTO/CEO level executives to derive corporate objectives and present deliverables.

James' clients have included large financial and educational institutions in Connecticut, Boston, and New York City government agencies in the New England states.

Company Affiliations

1997-present	Computer Associates International, Inc. Senior Project Manager
1997	PC Financial Network System Engineer
1990-1996	L.P. Thebault Company Manager of IT Operations

Education

1990	BS, Rochester Institute of Technology Rochester, NY
2000	MBA, Rutgers – The State University of New Jersey New Brunswick, NJ

Certifications

2001	Project Management Professional (PMP), PMP #: 40520
1998	Certified Unicenter Engineer (CUE)

James Mount: Mr. Mount is an accomplished senior project manager with over 15 years of IT experience, servicing a variety of customers and industries. He has a successful track record in all phases of Enterprise Systems Management and applications development implementations utilizing multiple professional teams and a variety of Internet technologies. James is currently completing development of a complex probation/parole tracking system for a New England state.

David M. Renaudin

Architect

Summary

Mr. Renaudin is an accomplished consultant with more than 15 years of information technology and management experience, both for the private sector and for state and local governments.

Areas of Focus

State and Local Government
Telecommunications
TCP/IP
LAN/WAN design
Senior Project Management
Vendor Relations

Environments

AT&T WAN Services
Novell NetWare
MS Windows NT
MS Windows 95/98
MS Exchange
Lotus Notes

Representative Experience

Currently acting as Architect for a project to develop and implement a restraining, protective and no contact order registry for the judicial branch of a densely populated state in the Eastern United States.

Performed the duties of Director of Information Technology for an international advanced technology consulting firm. Responsible for voice and data technology initiatives from both a strategic planning and project management perspective.

Developed custom help desk and installation tracking systems and managed on-site personnel for several Fortune 500 clients. Provided technical sales support ranging from hardware specifications to network design proposals and implementation.

Involved in consultation, project research and evaluation, LAN/WAN network design, senior project management and implementation support for various state and regional government agencies.

Supervised the design, implementation and management of a multi-vendor, multi-platform network serving more than 300 users. Extended LAN/WAN services to remote offices by implementing wide-area network technology and overseeing end-user support and standards development.

Supervised all aspects of PC support for a major Cleveland law firm. Established a help desk to field all incoming calls and route them to appropriate support personnel. Implemented a system for record keeping that provided a vehicle for problem analysis and preventative maintenance.

Company Affiliations

1995-present	Computer Associates Senior Consultant
1990-1995	Dreher Business Products, Sales/Network Engineer
1988-1990	Thompson, Hine and Flory, Supervisor of PC Support Services
1986-1988	Gemini Data Systems, Free-lance Programmer
1983-1986	Machine Tool Company, Marketing/Data Processing Manager

Education

1983	Bachelor of Arts in Political Science, Miami University, Oxford Ohio

Novell Certified NetWare Engineer
Hewlett-Packard Wide Area Network and Router Training

James P. Booth

Senior Consultant

Summary

Jim Booth has over thirty years of experience as a systems developer and applications architect. Mr. Booth is experienced in development tools and languages on both mainframe and "open" platforms, including both Unix and NT. Jim is a certified instructor in CA's CleverPath Portal technology and is skilled in development and design of XML-based interfaces to the Portal.

Most recently, Jim played a major role as senior software quality assurance consultant for a project developing a highly customized probation/parole management system for a New England state.

Jim is currently assigned to a project for a state Department of Education developing a Java-based solution for statewide management of GED registration and testing.

Representative Experience

In early 2001, Jim was part of team installing CA Unicenter at a large utility company in the Southeast. His responsibility was for TNG/MQ series installation, for which he developed policies and test cases. Jim was able to reduce MQ agent CPU time from several minutes per hour to several seconds per hour.

For a technology company located in Boston, Mr. Booth developed online statement processing tools, including: pie chart generation, data translation, image processing & printing, web statement creation programs and legacy system interface. Technical skills used for this engagement included C++, XML, IBM LE370, Assembly Language, VSAM, Open System 390, and Cobol II.

In 1998, Jim managed the upgrade of the account reconciliation system for major Boston bank. The new system ran as five separate subsystems in order to reconcile accounts at various levels within the organization. The engagement required extensive user and management interaction and reporting.

In 1997, Jim worked with staff at an IBM subsidiary to develop a user-friendly interface for the Integrion financial messaging system API. Jim participated in the team supporting the first client installation at a major bank in Pittsburgh. Jim's efforts required extensive mainframe and Unix systems integration experience in development for multi-tiered interactive voice response (IVR) systems. The engagement required Jim to assume extensive coding and analysis responsibilities. Technical skills used for this engagement included IBM CICS, CICS internals, Cobol II, C++, OS/JCL, VSAM, LU 6.2 Communications DPA/TCA, and Unix.

From 1995-1997, Mr. Booth was involved in all aspects of systems design and development for banking transactions applications for a Boston-based Trust Division of a major bank in Pittsburgh. Applications include support of existing and development of new check processing, check enhancement, Automated Clearing House, direct deposit, and ATM applications. Jim participated in all phases of requirements definition, user interviews, system design, development, testing and rollout of the replacement system. Has been extended at this client four times.

Company Affiliations

1995-present	Computer Associates, Senior Consultant
1990-1995	Blue Cross/Blue Shield of Rhode Island, Systems Analyst/Consultant
1984-1990	S.E.T.S. Principal Consultant

Hal S. Klein, Ph.D.

Senior Consultant

Summary

Twenty-two years of combined business experience, over seventeen years as a Consultant with significant results-oriented project management experience and a solid record of achievement in operations.

Manages an OD-oriented consulting group with client services including paper flow reduction, rightsizing, re-engineering, cycle time reduction, employee skills development [audio / video and computer-based], project facilitation, and outsourced personnel / human resource functions.

Responsible for project control, project results, quality and the training and development of all field staff (operations, employee skills developers, trainers, computer support, human resources services).

Representative Experience

As a consultant to the National Center for State Courts, Dr. Klein is currently working on an IT alignment/governance review for the Judicial Branch of a New England State. Hal is also managing change management training and organizational design activities for the primary Executive Branch IT organization of a New England State.

Hal is experienced in the use of “balanced scorecard” strategic planning techniques. Over the last ten years, Hal has lead over twenty strategic planning efforts using the balanced scorecard.

Specializes in the design and implementation of programs designed to focus on specific needs leading to capital savings. Has comprehensive experience in obtaining cost savings in both manufacturing and service sector industries through diagnosing productivity and quality needs, improving management skills, team building, strategic planning, participative management and designing and implementing cultural change.

Extensive experience in developing and implementing statistical software tools to address client quality measurement needs

Designed and developed training and development programs for Fortune 500 companies in the United States and Canada.

Organized and staffed requirements definition, organizational design and business process design teams involving personnel from a number of firms for clients in state and local government, information technology, manufacturing, health care, and transportation industries.

Company Affiliations

1986-present	Organizational Performance Improvement, Consultant and Owner
1984-1986	APC Skills Company, Director of Training and Development
1978-1984	APC Canada, Manager

Education

1975	BA, Carlow College, Pittsburgh, PA
1976	MA, Behavioral Sociology, Carlow College, Pittsburgh, PA
1987	Ph.D., Behavioral Sociology, Pennsylvania State University, State College, PA

4.5 Availability and Commitment

If awarded the CMS engagement described in the Branch's PNCO, dated December 20, 2001, CA will use commercial best efforts to assign the following staff to the project in the designated roles.

Role	Proposed Candidate
CA Steering Committee Representative	Michael Miralis
Program Manager	Robert Womack
Technical Architect	Ben Balke

CA will not remove the professional staff members listed in the table above from the project without the prior approval of the Branch's Project Manager.

Section 5. Cost Proposal

CA's proposal for a Statewide License for CA's Case Management Solution is $7,000,000. Please refer to Section 2, *Solution Overview*, for the individual components included in the proposal and Section 4, *Implementation Overview*, for the proposed services and education.

The proposal is based upon a fixed price with the flexible payment stream of three equal annual payments inclusive of maintenance. The competitive pricing is based on CA's **'one stop shop'** strategy.

This strategy leverages best practices and global expertise, underpinned by leading technology to reduce cost and greatly mitigate risk. Three critical elements to CA's approach are:

- Standard functionality;
- Advanced modules;
- With the flexibility to leverage the functionality additional to the requirements detailed in the PNCO

Appendix A. Vendor Response Section

Statewide Judicial Case Management System

Functional Standards

About this document

This appendix addresses basic functional standards, which must be part of any judicial case management system ("CMS") acquired by trial courts in the State of Indiana. This document is based upon functional standards developed by the National Center for State Courts and the research and development of the Automated Information Management System ("AIMS") project conducted by the Division of State Court Administration (the "Division") over the past six years. All facets of the work conducted by Indiana trial courts have been included in this document.

In recognition of the increasing importance of technology to the Indiana judiciary, the Indiana Supreme Court created the Judicial Technology and Automation Committee ("JTAC") to develop and implement a vision for the future of Indiana courts. JTAC believes that these minimum functional standards are essential to the efficient operation of courts throughout the state. JTAC has also established as a primary focus the need a "21st Century case management system" that is capable of being installed widely throughout the state.

This Appendix reflects the goal of the Division to establish standards that will describe state-of-the-art CMS, which can be connected to all courts and clerks in the state, as well as other agencies of government such as the Indiana State Police, the Department of Correction, Family and Social Service Administration, the Bureau of Motor Vehicles, and others. The Division also intends that a data warehouse, full network connectivity, and integration of systems with the Internet and other technology will leverage the benefits of technology to extend beyond a full-featured and robust CMS. The Division expects that the leveraging of technology will enable trial courts and clerks to manage increasing caseloads efficiently and more cost-effectively, provide all users of court information more timely and accurate access to that information, and ultimately reduce the cost of trial court operations as efficiencies are realized.

This Appendix refers at various points in time to certain terms. The term "Quest" refers to a proprietary case management system developed by Gottlieb & Wertz and currently used by a number of juvenile jurisdictions in Indiana. "ProsLink" refers to a data management system developed by the Indiana Prosecuting Attorneys Council, and is used by most Indiana county prosecutors. The term "CCS", or chronological case summary, refers to the basic information document created with every Indiana court case reflecting all activity on that particular case. "Weighted Caseload Measures" are those factors derived from extensive statistical study of Indiana courts whereby a time factor is assigned to each case category and calculated based on newly filed cases. "Division" refers to the Division of State Court Administration, which is an administrative agency of the Indiana Supreme Court.

Functional Standards Approach

Case management systems track the progress of cases through a court and produce supporting documents and reports. The basic unit of information these systems use covers the persons

involved in the case—plaintiffs, defendants, judicial officers, attorneys, and courtroom personnel. These persons submit documents to the court, participate in court events precipitated by those documents, and receive documents produced by the court as the case moves to disposition. Most events occur in accordance with schedules established by the court. As events are completed, information is maintained on them. In addition to persons, therefore, basic units of information address events scheduled in the future and events that have already taken place. Each case also has a very important financial element: fees, judgments and charges for court services collected and administered by a related elected official. Finally, these systems produce management information and statistics about the case processing and financial activities.

At the most basic level, these are the types of functions performed by case management systems and the types of information required to support these functions.

Current and Past Events

These functions address the entry and storage of information on events as they happen and maintenance of this information as a record of completed case activities.

- Case initiation and indexing - initially entering and indexing newly filed, transferred, reopened or remanded, counter- or cross-claimed, de novo appealed, and other new cases and the ongoing indexing activity.
- Chronological Case Summary ("CCS") and related record keeping - initiating and maintaining the CCS that is part of the official court record and maintaining the relationships between and accessibility of case-related information for a given case and cases that relate to it.
- Hearings - recording the results of hearings and notifying parties of court decisions.
- Disposition - disposing a case.
- Execution - executing a judgment.
- Case close - closing a case because all provisions of the court order have been satisfied.

Future Events

These functions address scheduled and calendared events that will happen at a future time. These events include the scheduling of administrative activities, which are not part of the official court record, and the calendaring of activities, which together with the results of these activities become part of the official court record.

- Scheduling - scheduling upcoming events, maintaining and displaying information on scheduled events, and monitoring adherence to schedules.
- Calendaring - generating and distributing court calendars.

Data Groups

The basic data groups contain information about each case and the persons involved in those cases. Other data groups contain information about events, financial activities, documents and reports produced by the system, and systems and utility functions.

Each data group consists of one or more data types, and for each data type, enough data elements are given to illustrate its purpose and content. The data elements given here are not intended to be a complete list of the data elements that would constitute the data type. More detailed data standards will be developed during the system definition and design phases.

Case

This group consists of a single data type—the case data type, which includes various case categories within the criminal, juvenile and civil case types. Information maintained on each case includes data such as case number, type, status, and style; court; initial filing information; and cross references to party, judicial officer, attorney, and other data.

Person

This group consists of data types that contain information on litigants, judicial officers, attorneys, and other individual and organizational participants in a case.

- Party - data on each party (i.e., individual or organization with standing to bring an action before a court such as a plaintiff, defendant, third party) in a court proceeding including identifier; name; type of party; address(es); personal information; status; aliases; and cross references to case, attorney, financial, and other information.
- Participant - data on each individual or organization who is a participant (e.g., court officer, witness, family member, credit agency) in a court proceeding including name; type of participant; address(es); status; and cross references to case, attorney, financial, company, and other information.
- Judicial officer - data on each judicial officer including identifier, name, assignment, assignment history, status, and other information with cross references to other data such as cases (for ease of discussion, the term “judicial officer” includes judges and other judicial officers such as magistrates, commissioners, referees, judges pro tempore, special judges, and senior judges.
- Attorney - data on each attorney including identifier, name, firm name, location(s), e-mail address, voice and facsimile telephone numbers, bar association linkages, and status and other information with cross references to other data such as cases.
- Non-court agencies - data on agencies external to the courts (e.g., process service, collection) that may participate in a case including name and location with cross references to case number, party, and other information.

Event

This group consists of data types that contain information on past and future events in a case.

- Filings - data on each pleading and other documents (e.g., complaint, petition) filed with the court including document type; filing date; filing party; method of filing; and follow-up actions with cross references to case, financial, document generation, and other information.
- Disposition - data on each disposed case (i.e., case for which a judgment, which is any type of disposition resulting from a court decision, has been rendered) including party; nature of disposition; date of disposition; judgment and payment details if applicable; other information in minutes; and cross references to case, party, hearing, financial, judicial officer, minute, and other information.
- Post trial - data on any type of post-disposition activity (e.g., garnishment, attachment, execution of judgment) including date of activity; judicial officer; and cross references to case, disposition, financial, and other information.
- Other events and entities - appropriate information on each event and entity not covered by other data types.
- Scheduled events - data on each scheduled event (e.g., hearing dates, deadlines for submission of documents such as answers or responses and affidavits) including

identification of the event; date, time, and location of the event; participants in the event; security requirements; forms, orders, or subsequent events initiated by the event; deadlines or other periods associated with the event; and cross references to case, hearing, and other information.

- Hearing - data on each calendared event (i.e., proceedings in which arguments, witnesses, or evidence are heard by a judicial officer including without limitation, court events, such as trials and motion hearings; calendar calls; conferences aimed at pre-trial settlement; and quasi-judicial events involving alternate dispute resolution (ADR), such as mediation and arbitration) including type; scheduled and actual dates and times; judicial officer; location; attorneys; results; and cross references to case, party, and other information.

Financial

This group consists of a single, all-inclusive data type. It contains information on financial activities in a case such as payments, financial obligations, and accounting activities including single and installment payments; payment schedules and plans, payment collection methods such as garnishments; proof of payment satisfaction; general ledger accounting; trust fund accounting; front office; cashiering; back office and fund distribution with cross references to case, party, disposition, and other activities.

Document and Report Generation

This group consists of data types that contain information on official court documents such as summons, notices, and reports that summarize case activities.

- Summons and other served processes - data on each served process including type of process; recipient; method of service; date of service; return of service; other status data; and cross references to case, party, and other information.
- Forms and other documents issued by court - data on each such document including type of document; recipient; proof or certificate of service; information on scheduled event; status and status date; and cross references to case, party, and other information.
- Management and statistical information - detail and summary information with cross-references to all of the above data types.

System and Utility

This group consists of data types that contain information on a variety of functions ancillary to case processing such as file and property management and security.

- Document management - data to assist in storing, retrieving, and manipulating documents.
- File and property management - creating, managing, tracking, archiving, and disposing of case records as well as receiving, tracking, and returning or destroying exhibits and other property.
- Security - ensuring security, privacy, and integrity of court information, as well as recording audit trails of modifications and access.
- Modification – ability of users or court system administrators to modify elements of the system for maximum usability.
- Compatibility with local, state, and federal standards.

Organization of Functional Standards

To the maximum extent possible, the standards present the case processing functions described above in the chronological order a typical case would flow through a court. This results in the following functions:

- Case initiation and indexing, with related initial accounting functions;
- CCS and related record keeping;
- Scheduling;
- Document generation and processing;
- Calendaring;
- Hearings;
- Disposition;
- Execution;
- Case close;
- Accounting functions (including front counter and cashiering, back office, and general ledger);
- File, document, and property management;
- Security; and
- Management and statistical reports.

The next section, Standards for Individual Functions, describes the standards for the functions listed above.

Standards for Individual Functions

This section describes the standards for each of the case processing functions listed in the previous section. These functions further divide into sub-functions. Those functions with numerous sub-functions are grouped into several categories of sub-functions.

For each function, the section begins with an overall description of the function and a list of the data types that would support the function. Then the sub-functions are described — either within their respective groups or for the entire function if there are insufficient sub-functions to divide them into groups—in a textual summary, each sub-function is characterized by a short phrase that describes the task(s) it performs and is numbered for ease of reference. Some standards represent capabilities that apply to multiple functions or call for integration between several functions. System functions should also be integrated to permit them to operate together and exchange data so users do not perform the same function several times and/or enter the same data into several functions. Each function covered in this appendix, therefore, should interact with other functions in a completely integrated fashion with minimal or preferably no manual intervention except when the user executes an override. When the functions are performed by separate systems (e.g., separate case processing and financial systems), the level of integration should be such that the existence of separate systems is transparent—or at least not an inhibiting operational factor—to the user. While integration would extend to all functions throughout the system, examples of some functions that would be integrated are:

- Case initiation function interacts with front counter and cashiering function to initiate the case and record filing fees in single procedure, and may be initiated manually, electronically by attorneys, through Quest or ProsLink, or through dedicated terminals or kiosks;

- CCS function supplies basic case information to document generation, calendaring, and other functions that produce documents (e.g., notices, calendars, orders) that contain this information;
- CCS function interacts with other functions in handling cases assigned special status;
- Scheduling function operates in conjunction with CCS, document generation, calendaring, and other functions;
- Scheduling and calendaring functions transfer easily and quickly to and from other parts of system when creating calendars;
- Appropriate functions display judicial officers' caseloads during CCS, scheduling, and other functions;
- Hearings function handles adjournments, continuances, and cancellations in conjunction with CCS, scheduling, calendaring, notice generation, and other functions;
- Hearings function operates in conjunction with CCS, document generation, and other functions to record hearing results and notify appropriate parties;
- Hearings function handles consolidations and bifurcations in conjunction with case initiation, CCS, and other functions;
- Disposition function operates in conjunction with CCS, case close, and other functions;
- Execution function operates in conjunction with CCS, case close, accounting, document generation, scheduling, and other functions;
- Case close function operates in conjunction with CCS, case close, accounting, document generation, scheduling, and other functions (e.g., to establish cross references between consolidated cases for CCS, scheduling, and notice generation; to permit cases to be closed at cash register);
- Accounting function supplies fee, payment, account, and other information to case initiation, CCS, and other functions; and
- File, document, and property management function interacts with CCS, scheduling, and other functions to ensure that data validation checks are satisfied.

In many situations, several functions would be performed contemporaneously; that is, they would appear to be a single function. For example, case initiation, CCS entries, scheduling, noticing, and calendaring are accomplished at the same time in small claims and many other limited jurisdiction civil cases; and disposition and case close often are the same function in many jurisdictions. This appendix covers the functions separately to accommodate those situations in which they are distinct case processing steps.

Case processing system functions should be automated to the maximum extent possible; however, the system should never be allowed to perform functions or enter data that would be contrary to the interests of the court. A manual override should exist to allow the user to override values supplied by the system or to initiate an action manually, such as generation of a form.

Each functional item listed in the tables below receive a "Y" if the functionality already exists in an implemented CMS, an "N" if the functionality is not incorporated in an implemented CMS, and an "R" if the functionality has been developed and is presently ready for release, but has not yet been implemented in any live CMS installations.

All references to administrative rules concern those rules promulgated and adopted by the Indiana Supreme Court, as amended from time to time, and which are published in their official form by West Group.

1.0 Basic System Architecture and Functionality

Y/N/R	
Y	1.0.1 system code and table-driven
	1.0.2 user-defined tables for administrator(s)
Y	1.0.2.1 state and local ordinance and statute (charge) codes with additional fields to represent start and end active dates of statutes, categorization of statutes, repeat offender penalties, actual state and local statute numbers, associated fines and collection fees
Y	1.0.2.2 law enforcement officer tables
Y	1.0.2.3 action codes that detail related triggers for court events (for example, an arraignment would trigger a calendar action and hearing information) and for miscellaneous comment entries such as "bench warrant issued" or "complaint filed"
Y	1.0.2.4 disposition type and sentencing codes
R	1.0.2.5 history of fee & fines tables maintained on-line
R	1.0.2.6 system automatically calculates fees based on table in effect at the time the fee or fine was imposed
Y	1.0.2.7 record event processing time for comparison to standards
Y	1.0.2.8 manage case retention time standards
Y	1.0.2.9 maintain and utilize judicial officer resources
Y	1.0.2.10 maintain location/facility availability
Y	1.0.2.11 track holidays and vacations
Y	1.0.2.12 record severity of charges
Y	1.0.2.13 allow motion type codes
R	1.0.2.14 provide for bond schedule
R	1.0.2.15 maintain disbursement and distribution schedule
Y	1.0.2.16 record class of charges for each individual based on case categories found in Administrative Rule 8
Y	1.0.2.17 record hearing types
Y	1.0.2.18 maintain case status
Y	1.0.2.19 permit judicial officers to waive portions of court costs and fees or to waive entirely all court costs and fees

	1.0.3 utilize a graphical user interface (GUI)
Y	1.0.3.1 consistent user interface through all modules
Y	1.0.3.2 available short cut/hot keys to permit user control of system from computer keyboard
Y	1.0.3.3 access to all areas of the system without performing multiple log-ins for users with appropriate security levels
Y	1.0.3.4 plain language error message that end users would understand
Y	1.0.3.5 ability of user to enter past and future effective dates
Y	1.0.3.6 available on-line help
N	1.0.4 ability to run in a Web browser with the same full functionality as a client/server environment
N	1.0.5 ability to run in a Java environment
Y	1.0.6 ability to run as a Windows 32 bit client
	1.0.7 required updates/enhancements implemented by vendor
Y	1.0.7.1 standard updates/enhancements require no additional substantive programming changes and no additional non-contract costs
Y	1.0.7.2 customization standards in place by vendor so that system updates can still be performed without loss of customization
Y	1.0.7.3 standard release schedule for major software revisions
Y	1.0.7.4 cost of upgrade and enhancement included in on-going support obligation
	1.0.8 Support and Implementation issues
Y	1.0.8.1 vendor will commit a full-time on-site project manager/team for the duration of the project
Y	1.0.8.2 problem log maintained by vendor
Y	1.0.8.3 telephone support available through a toll free number
Y	1.0.8.4 telephone support available twenty-four (24) hours per day
Y	1.0.8.5 problems may be resolved by vendor through remote diagnostics using a modem, the Internet, or a VPN.
Y	1.0.8.6 vendor is capable of providing on-site technical support if telephone support does not resolve problem
Y	1.0.8.7 hardcopy manuals are available for each user
Y	1.0.8.8 technical support manuals for other component parts of the CMS are available

Y	1.0.8.9 end-users have rescue or installation disks for the CMS or its component parts
	1.0.9 Physical Case File Management
Y	1.0.9.1 ability to generate and read bar code labels
Y	1.0.9.2 users have ability to forward files and update the file tracking system with appropriate security
N	1.0.9.3 track multiple volumes of files
N	1.0.9.4 assign security designations to physical files
Y	1.0.9.5 current location of a file and file status (whether open, closed, or archived) maintained and searchable
Y	1.0.9.6 generate list of case files to be boxed and/or archived
	1.0.10 Integration of other technology
N	1.0.10.1 support e-mail input and output [but e-mail output is fully supported]
Y	1.0.10.2 include a document management system
Y	1.0.10.3 if a document management system is not included, seamlessly integrate with a third party document management system.
N	1.0.10.4 provide for Internet payment of fees and fines, as well as credit card payment and other electronic transfer of funds
Y	1.0.10.5 include full functionality for data warehousing as part of the CMS
	1.0.10.6 if a data warehouse is not included, seamlessly integrate with a third party data warehouse solution, and if so, please indicate with which architecture or vendor solution this integration is possible
N	1.0.10.7 capable of full and seamless interface with existing legacy CMS, as well as Quest and ProsLink.
Y	1.0.10.8 Internet-enabled to allow easy display and collection of data through the World Wide Web.
Y	1.0.10.9 includes technology necessary to accept case filing electronically
	1.0.11 modules included or integrated into CMS
Y	1.0.11.1 probation
Y	1.0.11.2 detention facility
Y	1.0.11.3 prosecutor
Y	1.0.11.4 public defender
Y	1.0.11.5 clerk / financial

Y	1.0.11.6 drug treatment and alcohol
Y	1.0.11.7 mental health
N	1.0.11.8 jury management

2.0 Case Initiation and Indexing Function

This includes activities that initiate a case and maintain its index including acceptance and processing of the initial filing, associated record keeping and reporting, and creation and maintenance of an index for the case.

2.1 Case Initiation

New cases are entered into the court computer system so that information and filings (e.g., complaints, petitions) regarding the case can be recorded, retained, retrieved, used to generate forms and other documents, and combined with information from other cases to develop reports on court activity. These entries must conform to case numbering requirements from the Administrative Rules, as well as other standard styling and basic information. Case initiation may come from an electronically filed case, a case filed in traditional paper format, or from another authorized system with interface links to the case management system, such as ProsLink or Quest.

Other than indexing, the most basic case initiation activities are to give the case an identifier, a description, and a case file.

Table 2.1 --- Case Initiation Sub-functions

General Requirements	
Y	2.1.0 generate and assign case numbers using format and categories defined in Administrative Rule 8, and user modifiable to reflect rule changes
Y	2.1.1 generate case title or style from party names and other information
Y	2.1.2 generate and assign separate party identifier for each plaintiff, defendant, and other parties associated with the case
Y	2.1.3 capture reason for initiation (new filing, transfer, etc.)
N	2.1.4 queue case initiation for review by Clerk staff to ensure compliance with filing requirements
Y	2.1.5 records must contain court, county and other identifiers, including attorney numbers and must permit the relationship of parties to be identified
Y	2.1.6 automatic CCS entry including initiation information, contact information, and organizational information (for entities as parties in case)
Y	2.1.6.1 record whether case filing is time sensitive or requires other special handling

N	2.1.7 permit filing of case from dedicated terminal or walk-up kiosk
R	2.1.8 generate receipt and proof of filing, including time and date stamp and receipt of filing fees
Y	2.1.9 support differential case management based on weighted caseload categories and type of filings
Y	2.1.10 allow cases to be grouped by various criteria including parties and subject matter from single or multiple filings
Y	2.1.11 automatically search for duplicate parties and prompt user when a party already exists and allow inclusion and updating of information as part of case initiation
R	2.1.12 allow miscellaneous civil matters to be recorded and maintained absent a formal case filing (eg. tax warrants)
R	2.1.12.1 permit full search capabilities on miscellaneous case information, including a fully searchable comment field

Table 2.2 Criminal Case Initiation

Y	2.2.0 entry of date, time and location of offense in both system fields and the CCS
Y	2.2.1 record the degree of offense and multiple offenses
Y	2.2.2 track the history of all charges and their dispositions
Y	2.2.3 record the number of prior offenses with abstracts
Y	2.2.4 electronically transfer cases from initial hearing courts to courts of general jurisdiction
Y	2.2.5 initiated from ProsLink, local law enforcement, state law enforcement, and other electronic means
Y	2.2.6 ability to record and maintain miscellaneous criminal information which does not have a formal criminal case filing (eg. search warrant)
Y	2.2.6.1 permit full search capabilities on miscellaneous case information, including fully searchable comment field
Y	2.2.7 ability to accommodate changes in the criminal law, which must be applied as of the date of the offense, not as of the date of the change

Table 2.3 Traffic Case Initiation

	2.3.0. capture all information on issued tickets
Y	2.3.0.1 driver's license number
Y	2.3.0.2 state issuing license
Y	2.3.0.3 location of license if confiscated

Y	2.3.0.4 violation
Y	2.3.0.5 police officer name and identification, police department
N	2.3.0.6 class of license of offender
Y	2.3.0.7 Social Security number of offender
N	2.3.0.8 indicator flags for hazardous materials, accident, etc.
N	2.3.0.9 offender license information, including expiration date, restrictions, address, entity name, type of vehicle, etc.
N	2.3.1 calculate speeding fines based upon ticket information in consideration of law in effect as of the date of the offense
N	2.3.2 system interface with or transmit directly to the Indiana Bureau of Motor Vehicles

Table 2.4 Hearings

Y	2.4.1 record the original plea, changes of plea, and dates of changes
Y	2.4.2 record which parties were present for the hearing
Y	2.4.3 record the hearing result
Y	2.4.4 facilitate court management by reminding staff of files scheduled for hearing
Y	2.4.5 record and perform rescheduling, continuance dates, times, mass rescheduling, and reasons for schedule changes
Y	2.4.6 schedule multiple events by defendant in criminal cases
Y	2.4.7 automatically schedule future court dates, times, actions, facilities, and judicial officers
Y	2.4.8 permit integration of schedules with law enforcement and other entities external to court

Table 2.5 Events

Y	2.5.1 unlimited number of events possible for cases, with scrolling windows for review and update of information
Y	2.5.2 event codes user or court administrator defined
Y	2.5.3 fully integrated word processing, scanned or electronically filed documents in the CCS
Y	2.5.4 automatically make multiple CCS entries for one case at one time
R	2.5.5 automatically record a fee or payment obligation for an event

Y	2.5.6 record free form text regarding the event

3.0 Indexing

The index is created at case initiation and maintained throughout the life of a case. The index allows users to make rapid inquiries of the database by searching selected items (or key fields). A user can make increasingly specific inquiries of the database based on the information provided during a preliminary index search. The overall purpose of an index is to allow users to look up cases or parties and view index information such as each party's name, role in the case, and whether the party has an attorney; case type; case number; date filed; and a cross reference to other parties in the case (e.g., the parties named in the case title or style). Users who know some specific piece of information about a case—but do not know the case number—may access the index to look up the case number or whether the court database contains information on a specific case or party. If the system returns multiple matches, the index helps users find the specific case or party they are seeking and then retrieves basic information from the index on that case or party.

The index should allow users easy interfaces with (1) other parts of the system such as CCS, scheduling, calendaring, and accounting for potentially all information (including financial information) on that case and related cases and (2) the inquiry and report generation capabilities (see Appendix A) for more varied displays and reports. System designers must decide how the index will exist within their computer system. For instance, the index can be a "physical" entity in which all of the index information resides in a single place in the database, or it can be a "logical" entity that gathers the index information from several places. Regardless of whether the index is a physical or logical entity, the indexing system must make information easily accessible (i.e., in a manner that requires no additional user actions to correlate and manipulate index data from several places) for a specified case or party.

Table 3.0 Indexing Sub-functions

Y	3.0.1 create and maintain locally defined index that (1) contains basic index information such as each participant name, role in case, and whether party has an attorney; case type; case number; date filed; and cross reference to other parties in case, (2) permits database look-up by a choice of key fields and, if record found, (3) permits retrieval and display of index information, and (4) permits easy interfaces with other parts of case management system as noted below
Y	3.0.2 handle look-up and retrieval sub-functions by identifying a specific participant name, party role, case filed date range—if necessary, after eliminating other cases or parties that satisfy original look-up— and then obtaining index information by selecting from list of matching cases or parties or by using key fields
Y	3.0.3 allow users easy interface with other parts of the system such as CCS, scheduling, calendaring, and accounting for potentially all related case and financial information and with the inquiry and report generation capabilities for more varied displays and reports
Y	3.0.4 permit name search on variations of a person's or participant's name

Y	3.0.5 allow multiple names and bar identifiers, as well as firm affiliation for attorneys
Y	3.0.6 include index information in index record as noted above or make index information easily accessible or in a manner that requires no additional user actions
Y	3.0.7 permit updating of index based on occurrence of specific case events
Y	3.0.8 extract, print, or otherwise produce with appropriate security restrictions index information arranged according to various components of index
Y	3.0.9 retrieve basic index information on all cases associated with specific participant
Y	3.0.10 accommodate aliases in conjunction with indexing and processing of participant names as appropriate
N	3.0.11 permit search for participants based on address
Y	3.0.12 permit search for participants based on Social Security number search
Y	3.0.13 permit search for participants based on approximate spelling of party names (e.g. a "sounds like" search)
Y	3.0.14 permit search for participants based on gallery number or other law enforcement identification
Y	3.0.15 permit search for participants based on driver's license number or other state issued identification number
	3.0.16 accommodate *lis pendens* matters, including ability to record and communicate when a *lis pendens* notice is no longer warranted

3.1 CCS and Related Record keeping Function

The activities associated with entering in the CCS including: (1) that a document has been filed; (2) that, in some instances, a filed document is the basis for placing a case on the court's calendar for a hearing or other review; and (3) what occurred at the hearing or other review. This appendix adheres to the following three basic characteristics of CCS:

- The CCS is a chronological record of actions which have occurred on a particular case. The CCS is the principal case-level record utilized by the courts.
- As a chronological record of actions which have already occurred, the CCS is never anticipatory. The content of the CCS entry of a completed event, however, may be anticipatory (e.g., a CCS entry that scheduling of a hearing has been completed, while the content of the entry says the hearing will occur in the future).
- The CCS entries show the existence of other documents that are part of the official court record.

CCS activities include the following functions: (1) record in the CCS the results of events based on the documents filed and financial transactions during the life of a case; (2) maintain the CCS; (3) maintain records used in the CCS function; and (4) produce related outputs. The CCS, which is arranged by filing date, is the primary chronological record of documents that have been filed and court orders or judgments that arise from calendared matters during the life of a case.

Users enter information in the CCS as court events are completed. The CCS function differs from the scheduling and calendaring functions (covered later in this appendix) in that scheduled events and calendared matters are to be acted on in the future. For example, the clerk would enter a scheduled event on a future date in the calendar but not in the CCS (e.g., a tickler function). If the clerk places a matter on a judicial officer's calendar as a result of the activities associated with the scheduled event, the clerk creates a CCS entry to record the fact that a hearing or other review has been calendared. From a computer system perspective, the CCS is a logical entity and not a physical repository of information as in manual case processing. Record keeping related to the CCS refers to the computer's ability to access, correlate, and manipulate records (e.g., code translation tables, case records, party records) in a manner that produces the required information on a given case and on cases that have a particular relationship to the given case. The computer produces this information as if it were in a physical CCS book. Additionally, when the system inputs or outputs CCS information, it assists the user by providing prompts, selected printouts or displays of CCS contents, an audit trail of who updated the CCS, and other utility services.

Sub-functions. Within the CCS and Related Record keeping Function, the sub-functions are grouped into case information, event information, information relationships, and input/output management.

3.2 Case Header

When the system creates the CCS using entries made during case initiation and supplemented by subsequent user entries, the CCS receives information on the initial filing and basic case information such as case type, case category, case status, case title or style, parties, attorneys, and CCS-related events. As the case progresses, this information is maintained and additional information is recorded—primarily on events in the flow of the case as described in the Event Information below.

Table 3.2 --- Case Header Sub-functions

Y	3.2.1 maintain case information originally entered during case initiation in CCS including information on initial filing and basic case information
Y	3.2.2 maintain information originally entered during case initiation for parties and participants as individuals or organized entities with a primary contact person

3.3 Event Information

As the case progresses and events are completed, summary information about each event is entered into the CCS. While some events may trigger an update to the case information in the CCS, event entries generally are not updated unless they have been entered incorrectly; subsequent events are entered separately.

Table 3.3 --- Event Information Sub-functions

Y	3.3.1 enter and maintain information and dates on filings and other completed events not previously in system

Y	3.3.2 create CCS entry and update case information based on occurrence of specific events that can be completely or partially transferred from another function such as hearing scheduled, hearing results, dispositions and requests for enforcement of judgments
Y	3.3.3 create CCS entry based on electronic documents distributed by other functions
Y	3.3.4 permit user to identify and retrieve electronic documents by identifying them on each detailed list of CCS events and easy display or printout of electronic document
Y	3.3.5 allow single event to create multiple CCS entries
Y	3.3.6 enter, maintain and display or print information on special case processing requirements or orders
Y	3.3.7 maintain case information as official court record in accordance with state and local statutes or rules
N	3.3.8 permit the entry of *nunc pro tunc* entries, to the extent permitted by administrative rules and state law

3.4 Information Relationships

For single and multiple cases and persons, the system should maintain relationships between different kinds of information contained in the CCS and inform users of cases, activities, parties, and other entities that would affect or be affected by the information at hand. The capability to establish and apply such relationships greatly assists users in entering and synchronizing data throughout the system.

Table 3.4--- Information Relationships Sub-functions

Y	3.4.1 maintain information on multiple parties, participants, witnesses, victims and attorneys in each case, such as personal information and status
Y	3.4.2 maintain multiple current and historical addresses, with beginning and ending dates, for each party, participant, witness, victim and attorney
Y	3.4.3 enter, change or withdraw attorneys for specific cases (or groups of cases) or parties (or groups of parties) with dates when active and inactive
Y	3.4.4 maintain information on law firms and associated attorneys
Y	3.4.5 maintain information and relationships on multiple cases, judicial officers, attorneys and parties and allow changes such as transfers in single user action
Y	3.4.6 permit, with proper security clearance and supervisor approval, editing and deletion of specific CCS entries and all data related to those entries with an accompanying audit trail record of the modifications or deletions
Y	3.4.7 apply specific changes to multiple CCS's, parts of CCS's or groups of cases so that user can make change in single action

N	3.4.8 link and display information on CCS entries for events related to current CCS entry (e.g. new motion filed should be linked to motion that it opposes)
R	3.4.9 link and display documents and images that are related to CCS entries

3.5 Input/Output Management

A group of utility-type sub-functions support input to and output from CCS and other functions. These sub-functions support code translation tables, user prompts, workstation usage records, CCS displays, and input templates of standard court documents.

Table 3.5 --- Input/Output Management Sub-functions

Y	3.5.1 maintain and properly use code translation tables defined by user
Y	3.5.2 provide prompts to help users including on-screen help available for all major functions
Y	3.5.3 create, maintain and produce audit trail identifying persons who and the location of the computers that made CCS and other entries, including the date and time entries were made, modified, edited or otherwise acted upon
Y	3.5.4 print or display all, part or summaries of CCS's for specific case or group of cases based on criteria entered by user and for life of case or specific date range in chronological or reverse chronological order as specified by user
N	3.5.5 support electronic filing through Internet, through direct connection with courthouse kiosks, or through case initiation by other system such as Quest or ProsLink
Y	3.5.6 maintain file of input templates available to users to create input documents and, as necessary, associated cover sheets and relate the use of each template to other court events such as CCS entries
Y	3.5.7 maintain and print or display the history of changes in judicial officer and court assignments, including those by challenges, and showing present and former judicial officers and reasons for change
Y	3.5.8 maintain and print or display the history of attorney changes for specific case or party

4.0 Scheduling Function

The activities associated with scheduling upcoming events, maintaining and displaying information on scheduled events, and monitoring adherence to schedules. Scheduling contrasts with CCS in that scheduling addresses events that are not yet calendared and have not yet happened, while CCS entries address completed activities.

Courts schedule the following two basic types of events:

- In many courts, deadlines are set for specific events when a case is filed and assigned a case number. Other deadlines are established for submission of documents and

completion of other actions as the case progresses. These deadlines often conform to time intervals based on the case's differential case management category, case type, or case category, as well as statutory or rules-based handling of cases. Deadlines define the schedule within which the case moves to disposition, which may be by trial or before the trial, for example, by default, dismissal, withdrawal, or conference.

- Courts also schedule trials, other judicial proceedings and other events.

While most courts regard scheduled events as administrative activities and not part of the official court record, some of these events generate disposition deadlines that may initiate an action that is part of the official court record, and may appear in the CCS.

The Scheduling Function includes the scheduling of judicial and other events; the Calendaring Function covers the calendaring of matters placed on a judicial officer's calendar for hearing or other review. The distinction between scheduled and calendared events takes on greater significance as access to court records—particularly electronic access—increases. While courts permit access to official court records such as calendars and hearing results, internal work such as schedules should have more protection. Access to an amalgamation of schedules and calendars, moreover, could confuse outside persons unfamiliar with court procedures and terminology. Finally, from a technical perspective, there is an intrinsic difference between internal, administrative items such as schedules and calendars, hearing results, and other items in official court records—access to schedules, when granted, is a "pull" operation, and access to calendars is a "push" operation.

Sub-functions. Within the Scheduling Function, the sub-functions are grouped into schedule creation, person and resource assignment, ticklers and other user alerts and prompts, and schedule and case management.

4.1 Schedule Creation

Before considering the people and other resources that will serve as the foundation for schedules, guidelines must be established for determining what to schedule, what conditions trigger scheduling, and how to schedule multiple events or persons that relate to each other.

Table 4.1 --- Schedule Creation Sub-functions

Y	4.1.1 schedule events and groups of events
Y	4.1.2 initiate schedule of future events based on user input or occurrence of prior events
Y	4.1.3 allow multiple cases and events to have same scheduled date and time
Y	4.1.4 schedule maximum number of cases for specific time interval by event type, including allowance of case "stacking", where several cases are scheduled for the same trial date
Y	4.1.5 schedule group of related cases as if group was a single case
Y	4.1.6 provide manual override to automatic scheduling to allow user to substitute deadlines for specific situations
Y	4.1.7 apply specific change to multiple schedules for group of cases as if group was a single case

N	4.1.8 identify and display scheduling conflicts
Y	4.1.9 when multiple schedules change, modify records of all related parties, participants, calendars, CCS entries and other data and functions including displaying scheduling conflicts, suggesting resolutions, allowing user overrides and rescheduling only with user approval
Y	4.1.10 fully integrate with Microsoft Outlook

4.2 Person and Resource Assignment

This section covers standards for assignment of the proper people (e.g., judicial officers, attorneys, parties, participants) and resources (e.g., court or meeting room) to create reliable schedules. Most of these standards specify fully automated functions, particularly important in large jurisdictions with many people and resources to schedule, but also applicable to courts of any size.

Table 4.2 --- Person and Resource Assignment Sub-functions

Y	4.2.1 maintain waiting list of cases to be scheduled for specific date, date range, judicial officer, courtroom and other entities
N	4.2.2 considers availability of judicial officers, law enforcement, attorneys, parties, participants and court facilities, weekends, holidays and other days generally unavailable for court (to extent information is in the system) and allow manual override or scheduling
N	4.2.3 relate individual judicial officers and other participants to courtrooms, locations or other resources according to availability by time delimited to time blocks as small as fifteen (15) minutes or as large as one (1) year
Y	4.2.4 assign specific case categories to specific divisions of the court according to user defined parameters including those based upon the Weighted Caseload Measures
Y	4.2.5 assign and reassign individual and groups of judicial officers using one or more of the following methods: random, according to pre-defined rules, according to specific conditions present, according to judicial officer's schedule, or through attorney selection
Y	4.2.6 assign related cases, as designated by a user, to the same judicial officer and group together on schedule
Y	4.2.7 reassign individual or group of cases from one judicial officer or calendar to another as if the group were a single case

4.3 Ticklers and Other User Alerts and Prompts

The system should generate ticklers, other alerts, and prompts to inform users (including individual users and workgroups) of impending or expired schedule deadlines, of completed schedule events, and of required scheduling actions that relate to the current activity.

Table 4.3 --- Ticklers and Other User Alerts and Prompts Sub-functions

Y	4.3.1 provide tickler capability: identify events coming due or overdue, periods about to expire or expired and events of which user should be aware, based on statute or rules; prompt or notify users; and initiate proper functions
Y	4.3.2 provide user-activated or -deactivated visual reinforcement to ensure user sees tickler message
N	4.3.3 identify completed events and prompt users
Y	4.3.4 generate report or display that lists all events due on specific date or date range sorted by date, event, or other criteria
N	4.3.5 prompt user to schedule predefined related cases
N	4.3.6 generate alerts when approaching predetermined number of events on schedule using weighted caseload, local rule, and caseload redistribution planning rules
N	4.3.7 generate alert when displaying cases that are not public record
Y	4.3.8 generate alert when judicial officers, attorneys, parties, participants, court facilities, and other scheduling factors are unavailable
Y	4.3.9 fully integrate with task list and other personal management features of Microsoft Outlook
Y	4.3.10 integrate with messaging system for notices and other notifications

4.4 Schedule and Case Management

The case management system must provide highly flexible, user-defined printouts and displays of scheduling information by various groups and individuals. The system also must accommodate various case management methods and provide other support functions.

Table 4.4 --- Schedule and Case Management Sub-functions

Y	4.4.1 maintain and display information on scheduled events
Y	4.4.2 print each schedule upon user request
Y	4.4.3 create, maintain, and display or print administrative or clerk's calendar that shows all cases with action pending within specific date range, and update calendar when pending actions completed
Y	4.4.4 enter completed events noted on administrative or clerk's calendar into CCS
Y	4.4.5 print or display attorneys who have cases with future court dates sorted by various criteria
Y	4.4.6 print or display schedules for various persons and facilities within a specific time period
Y	4.4.7 generate CCS entry based on scheduled and completed events

N	4.4.8 track conformance to rules and other standards including modifications, allow some user overrides, and suspension of time counting under certain conditions
N	4.4.9 support differential case management and other case management methods and rules such as Weighted Caseload measures determined by Division
Y	4.4.10 include case age with any display of case status or adherence to schedules (e.g., tracking conformance to time standards

5. Document Generation and Processing Function

The activities associated with this function include generating, distributing, and tracking documents that notify persons of past and upcoming events and other court actions. The categories of documents in this section are (1) those that typically require service by a law enforcement officer or other authorized process server with a return of service such as civil warrants, summons, and complaints; (2) those that are given or sent by mail to litigants with a proof or certificate of service such as notices and letters; and (3) those that are sent with no proof of service or used internally such as forms, letters, and brief reports.

Many of these documents contain court seals and standard text into which the text and data that pertain to a specific case are inserted and signatures affixed. To help produce these frequently used documents, the case management system allows users to create, store, and maintain forms—or output templates—that contain "boilerplate" text and may be imaged to permit court seals and signatures. When users need to complete one of these forms, the system accesses the appropriate output template and the user inserts the text and data for a given case. The text and data may be newly entered or received from sources such as electronic filing, the Internet, local or remote scanners or facsimile machines, and case processing and word processing systems

These documents may be generated automatically following a specific event or result from a user entry, and they may be either printed and distributed manually or distributed electronically. Users must track served documents from the time they are sent out until the person who has been served appears at the prescribed time and place.

Sub-functions. Within the Document Generation and Processing Function, the sub-functions are grouped into document generation and document utilities.

5.1 Document Generation

This category consists of all documents generated by the system including those that typically are served by a process server, such as a law enforcement officer, and those that are simply mailed or given to a party, attorney, or participant.

Table 5.1 --- Document Generation Sub-functions

Y	5.1.1 generate notices or electronic acknowledgments and notify appropriate parties that filings, pleadings, and other documents are received and accepted by the court, particularly when a document is filed electronically
Y	5.1.2 generate documents triggered by a specific event
Y	5.1.3 generate miscellaneous documents
Y	5.1.4 generate special notices
Y	5.1.5 in cases with multiple active parties, generate single notice for attorney who represents multiple parties

Y	5.1.6 in cases with multiple active parties, show names and primary addresses of all other active parties and attorneys on notice to specific active party and show names and primary addresses of all active parties on file copy of notice
Y	5.1.7 print documents individually or in batches in local courts or central location
Y	5.1.8 distribute documents electronically
Y	5.1.9 track document service, return of service, proof or certificate of service, re-service if necessary, and any other events
Y	5.1.10 perform document generation, printout, and distribution sub-functions for group of cases as if group was a single case
Y	5.1.11 integrate with Microsoft Word

5.2 Document Utilities

This category includes various utility functions that support document generation such as output templates (i.e., forms that may be imaged to permit court seals and signatures into which text can be inserted), standard text (e.g., "boilerplate" text used in many documents), and recipients for specific documents.

Table 5.2 --- Document Utilities Sub-functions

Y	5.2.1 in conjunction with CCS and related record keeping functions, allow users to create and maintain files of output templates and standard text, including entire paragraphs and graphics and use files to (1) create official court documents by inserting text into templates and (2) create other documents consisting of only text
Y	5.2.2 maintain electronic duplicate of document(s) or images of documents delivered electronically and relate to the court event(s), party, or activity for which they are used
Y	5.2.3 provide capability to retrieve addresses of attorneys, parties, and participants who should receive specific documents from various locations in system and database
N	5.2.4 produce electronic forms and other documents noted above; distribute documents and receive responses electronically

6. Calendaring Function

The activities associated with the creation of calendared matters including the generation, maintenance and distribution of court calendars for each type of hearing or settlement conference.

Calendaring encompasses all proceedings at which arguments, witnesses, or evidence are considered by a judicial officer or administrative body in court events such as trials and motion hearings; conferences aimed at pre-trial settlement; and other judicial events.

Calendaring is the deliberate act of placing a matter on a court or judicial officer's calendar on a particular date. The calendared activity, which may be immediate or at a future date, refers to court business conducted by a judicial officer, usually with counsel and litigants present and resulting in a decision by the judicial officer. The action, ruling, order, or judgment from the event causes production of a document that, with the calendar itself, is part of the official court record. The clerk creates a CCS entry to record the result through an entry reflecting the action taken.

Sub-functions. Within the Calendaring Function, the sub-functions are grouped into calendar creation and calendar management.

6.1 Calendar Creation

Hearing schedules (see Scheduling Function) provide the source information for court calendars. The Calendaring Function creates calendars by accepting schedule information, combining it with information from other functions (e.g., basic case information from the CCS and Related Record keeping Function, judicial officers' notes), and arranging the information into the calendar format. As the hearing date approaches, users maintain calendars by entering changes (e.g., add witnesses, change attorneys, return to scheduling because case continued) and generate calendars (usually by printout) for distribution.

Table 6.1 --- Calendar Creation Sub-functions

Y	6.1.1 create, generate, and maintain calendars based on scheduling information for each type of hearing or mixed hearings for specific periods and according to various criteria, permitting editing and modification by authorized users
Y	6.1.2 transfer easily and quickly between scheduling, calendaring, and other parts of the system when creating calendars
Y	6.1.3 create and maintain judicial officers' notes for judicial officers' viewing only in accordance with local rules and statutes

6.2 Calendar Management

Between the time the calendar is created and the hearing date, users perform various calendaring functions such as finalizing the calendar at a prescribed cutoff point, printing the calendar, distributing it to judicial officers and strategic courthouse locations for posting, and producing summary reports.

Table 6.2 --- Calendar Management Sub-functions

Y	6.2.1 create and print calendars individually or batch according to various criteria including date, judicial officer, or courtroom
N	6.2.2 distribute calendars electronically and also broadcast to monitors located throughout courthouse and publish in real time to Internet
Y	6.2.3 generate and display or print summary of upcoming hearings for a judicial officer or in a courtroom over a specific period
Y	6.2.4 display or print summary calendar information and provide interface to other parts of system to access other types of information

Y	6.2.5 provide full synchronization capabilities with PDA systems as well as with personal calendar programs such as those available through Microsoft Outlook

7. Hearings Function

The activities associated with recording the results of calendared events and notifying parties of court decisions. In the context of this appendix, calendared events include all proceedings in which arguments, witnesses, or evidence are heard by a judicial officer or administrative body. Even though most cases reach an important intermediate milestone or culminate when they are adjudicated in a trial or some type of other event, the Hearings Function imposes only two functions on case management systems —recording results and notifying parties. Minute entries (normally annotated on the calendar or on separate forms) and court orders record hearing results and document for the parties the findings resulting from judicial or quasi-judicial events. In performing these tasks, the Hearings Function relates closely to the Calendaring Function, Disposition Function, and Case Close Function.

As the hearing progresses, the judicial officer may request a warrant, some type of form, or some other document that would be generated and printed.

The Hearings Function uses the term “judgment” in two contexts—first, as the general term for any disposition that results from a court decision; second, to connote the information contained in a judgment such as the judgment amount, debtor information and amount, creditor information and amount, and payment provisions. This function relates closely to the Disposition Function, which discusses judgments in these contexts and covers judgment forms that document the terms of the judgment.

Sub-functions. The hearings sub-functions, which should accommodate various types of hearings and other court related events are given in the following table:

Table 7.1 --- Hearings Sub-functions

Y	7.1.1 generate worksheet, calendar, or some other document suitable for on-line, rapid, in-court minute entry based on templates defined by users
Y	7.1.2 generate and display or print worksheet, calendar, or some other document suitable for manually recording minutes
Y	7.1.3 enter, store, and display or print minutes recorded on calendar or worksheet
Y	7.1.4 provide edits and prompts with on-line minute entry capability
Y	7.1.5 enter, store, and document minute orders, including informal minute orders when there is no corresponding calendared event (e.g., ex parte matters), according to local court rules
N	7.1.6 use events captured in minutes to update records throughout system
Y	7.17 create and print court orders resulting from hearings and other judicial and ADR events

N	7.1.8 distribute court orders resulting from hearings and other judicial and ADR events electronically to outside parties and internally for automatic entry in CCS
Y	7.1.9 enter information in court orders and judgments resulting from hearings and other judicial and ADR events as events in CCS
N	7.1.10 distribute court orders resulting from hearings and other judicial and ADR events based upon party's preference (e.g., mail, facsimile, e-mail) if multiple distribution methods are available

8. Disposition Function

The activities associated with disposing all or part of a case or individual parties in a case due to a judgment, which is any type of disposition resulting from a court decision after a trial, default, dismissal, withdrawal, settlement, transfer out to another jurisdiction, or consolidation. This function supports the user in accomplishing the actions called for in court orders.

The Disposition Function relates closely to the Hearings Function, in which judgments are determined, but not documented. The Disposition Function receives information from the Hearings Function on cases disposed by trial, and any other types of disposed cases. It also receives information on disposed cases from other functions, primarily the CCS and Related Record keeping Function. It interacts with the Execution Function in processing judgments and often functions contiguously with the Case Close Function in disposing and closing cases.

The term "judgment" refers to the general term for any disposition that results from a court decision as noted above, as well as information contained in a judgment such as the judgment amount, debtor information and amount, creditor information and amount, and payment provisions. The term "judgment" also refers to dispositions and the information contained in those dispositions from cases that result in a determination of guilty or not guilty, conviction, sentence, fine, probation or other final court action in criminal and juvenile cases

The Disposition Function may also encompass the need to track various post-judgment elements of cases. These tracking mechanisms may include on-line database tickler files as well as the creation of a judgment form at case disposition to document the judgment information in physical records or files (for example, in civil cases, these tracking mechanisms may be used for a reactive tracking of judgment payments). Users must be able to easily reopen disposed cases for activity such as modifications, post conviction relief petitions, proceedings supplemental, motions to correct errors, and release of *lis pendens*.

Exchange of judgment information may occur with (1) other governmental units at the federal, state, and local levels; (2) private organizations; and (3) other users.

Sub-functions. The disposition sub-functions could apply to entire cases, individual parties (e.g., if some, but not all, parties in multiple-party case settle), individual parcels (i.e., in real property rights cases), individual causes of action (e.g., when each claim in a multiple claim promissory note constitutes a separate cause of action, information usually should be recorded on the disposition of each cause and of the entire case), criminal sentences, or other dispositions entered on civil, juvenile or criminal cases. Examples of sub-functions are given in the following table:

Table 8.1 --- Disposition Sub-functions

Y	8.1.1 record disposition type (i.e., type of judgment, determination of guilty or not guilty) including those involving entire cases, individual parties, parcels in real property rights cases, and cross complaints
Y	8.1.2 identify inactive cases and groups of cases and prompt user regarding appropriate action
Y	8.1.3 process information and produce documents for dispositions by trial, ADR such as mediation or arbitration, default, dismissal, withdrawal, settlement, transfer out to another jurisdiction, or consolidation
Y	8.1.4 process information and produce documents on post-judgment activities
N	8.1.5 distribute disposition and post-judgment documents noted above electronically external to court and internally to be entered in CCS
Y	8.1.6 create, print, and maintain separate judgment indices that show original and subsequent judgments by case and party
Y	8.1.7 create, display, and maintain separate disposition and judgment screens that show original and subsequent judgments for each case and party
N	8.1.8 allow for multiple judgments in cases involving multiple parties
Y	8.1.9 update each case in group of disposed cases as if group were single case
Y	8.1.10 record date and amount of judgment including fine, sentence, restitution, etc.
N	8.1.11 record aggregate fine or judgment and back calculate the appropriate fines and fees
Y	8.1.12 record multiple decisions, sentences, fines or fees per case or per charge
Y	8.1.13 record satisfaction of judgment as well as partial payments made pursuant to judicial order

9. Execution / Proceedings Supplemental Function

The activities associated with collection of a judgment. These situations normally arise when the court is requested to assist with collection of the monetary judgment specified in a court order by obtaining information on the status of judgment payments and balance due by issuing documents such as memoranda of credit and garnishments of return. The Execution / Proceedings Supplemental Function interacts with the Hearings Function and Disposition Function in these tasks.

Sub-functions. The following table provides examples of the Execution / Proceedings Supplemental sub-functions.

Table 9.1 --- Execution Sub-functions

N	9.1.1 process requests for execution of judgments and establish cross references for each execution sub-function given below to judgment index and judgment screen

N	9.1.2 process objections to execution
N	9.1.3 record fully, partially, and unsatisfied executions
N	9.1.4 update each case in group of cases for which execution requested as if group was a single case
N	9.1.5 record identifying information for general garnishee defendants and issue garnishment complaint and interrogatories, recording service of process information.
N	9.1.6 provide printed document to be provided to garnishee defendant's financial institution containing identifying information, complaint and interrogatory information, and recording service of process information
Y	9.1.7 maintain detailed records of payment history including records of payments and calculations of interest

10. Case Close Function

The activities associated with final closure of a case. These activities normally are part of case disposition, but this appendix addresses the Case Close Function separately from the Disposition Function to accommodate the rare instances when the two functions are separate.

Case closure normally occurs when the case is disposed, which usually means the court has issued a final order disposing all parties and all issues and has statistically closed the case. Case closure, however, seldom causes a case to be removed from the case management system and placed in an archive file. Cases are archived according to records management policies located in the Administrative Rules.

From the perspective of a case management system, the Case Close Function and sub-functions address statistical closure, and the File, Document, and Property Management Function addresses operational closure.

Sub-functions. As noted above, the case close sub-functions would either be performed separately in the Case Close Function or in a continuum consisting of the Disposition Function and the Case Close Function. These sub-functions are:

Table 10.1 --- Case Close Sub-functions

Y	10.1.1 receive information from Disposition Function and record reason for closure
Y	10.1.2 establish cross references between consolidated cases for CCS, scheduling, notice generation, and other functions
Y	10.1.3 close case including updating of CCS, generating required forms, notices and reports for that case)
Y	10.1.4 generate overall case closure reports

11. General Accounting Function

The activities associated with satisfying the court's fiduciary responsibilities including receipt of funds, posting case-related funds to a case fee record, posting non-case related funds to other types of records, maintaining account records, disbursing funds, generating checks, billing, producing payment agreements, producing notices required for collection activities, reconciling bank accounts, and producing documents required to satisfy county, state, and federal auditing agencies.

In this appendix, accounting activities differ from case management system functions covered previously because many accounting functions are performed by different personnel and may be supported by a different computer system. Because of the ambiguities in the division of functions between case processing and accounting, the financial system functions are divided into three groups:

- "case processing" functions that apply directly to case management systems. These functions receive fees and other payments; generate receipts; maintain a limited number of bank accounts to hold received funds until they are sent to the proper person, agency, or account; and prepare reports on these activities.
- "financial functions" that support case processing. Functions in this group handle a wide range of interest-bearing and noninterest-bearing accounts, process accounts receivable, distribute funds, adjust fund balances, maintain journals and general ledgers, and produce end-of-period reconciliations and other summaries and reports.
- other functions—such as budgeting, payroll, and fixed assets—that relate only tangentially to case processing.

The financial sub-functions designated as mandatory should be present in some system(s)—either a case management system, a financial system, or an integrated system—but not necessarily in the categories shown below. This also applies to the financial sub-functions designated as optional. The case processing and financial functions relate closely to each other, to other case processing and financial functions, and to accounting functions. For example, many accounting functions cause CCS entries and vice versa; many accounting reports relate to the other management and statistical reports; and the system may be required to interface with clerk cash register systems for funds collection and receipting. Because of these and many other interfaces, if the civil case processing and financial systems are separate, the interface between them must be such that they operate as if they were a single system from the users' perspective. The accounting sections in this appendix note only the most significant interfaces between the case processing and financial functions.

The Accounting - Front Counter and Cashiering Functions and Accounting - Back Office Function sections below cover the case processing and financial functions relative to each of the two office locations. The final accounting section covers general ledger functions. This section addresses common general accounting functions.

Sub-functions. The general accounting sub-functions—all of which may be either case processing or financial—that are either common to one or more of the subsequent accounting sections or cannot be categorized into one of those sections are:

Table 11.1 --- General Accounting Sub-functions (case processing, financial, or both)

Y	11.1.1 comply with generally accepted accounting principles (GAAP) for governmental entities
Y	11.1.2 provide appropriate security and authorization for all accounting functions
Y	11.1.3 allow user to override any data supplied automatically by system
Y	11.1.4 generate accounting notices (e.g., for payment) at front counter or in back office
Y	11.1.5 transfer funds from one case to another case or between accounts in a given case
Y	11.1.6 support trust fund accounting

12. Accounting - Front Counter and Cashiering Function

The activities associated with the cashiering station of the front counter in the clerk's office where litigants and their representatives submit payments required by the court.

Sub-functions. Within the Accounting – Front Counter and Cashiering Function, the sub-functions are grouped into funds collection, receipt generation, and bookkeeping.

12.1 Funds Collection

This group of sub-functions applies to all case processing and addresses the activities associated with calculating the amounts due and accepting payments from litigants and their representatives.

Table 12.1 --- Funds Collections Sub-functions (all case processing)

R	12.1.1 permit payment to be accepted for cases filed whether or not all information has been entered on CCS and recorded by entering minimal amount of data (e.g. litigant name, year, case type abbreviation and/or case number) as precursor to full CCS entry
R	12.1.2 accept payments by various methods including electronic funds transfer, internet payments, debit accounts, credit card, on-line check, check and cash
R	12.1.3 compute fees based on occurrence of specific event
R	12.1.4 identify existence of fee waivers or deferrals, display message, process appropriately
R	12.1.5 allocate fees associated with nonparties that may or may not be case related and process appropriately
R	12.1.6 record fees, other moneys collected, and related information
R	12.1.7 accept multiple types of payments in single transaction
R	12.1.8 accept multiple payments for single case with capability to process as either single payment or separate payments

R	12.1.9 accept single payment for multiple cases with capability to process separately for each case
R	12.1.10 permit payments to be voided and re-entered before daily balancing with proper security provisions

12.2 Receipt Generation

This group of sub-functions applies to all case processing and addresses the activities associated with generating and printing receipts for payments from litigants and their representatives.

Table 12.2 --- Receipt Generation Sub-functions (all case processing)

R	12.2.1 generate and print receipts with proper identifiers based on collections with user option to receive single or multiple copies
N	12.2.2 generate and distribute electronic receipts for electronic payments
R	12.2.3 generate and print receipts with unique, locally defined, sequential receipt numbers
R	12.2.4 generate and print multiple receipts from one financial transaction covering multiple payments for multiple cases or purposes
R	12.2.5 generate and print either a single receipt or multiple receipts from one financial transaction covering multiple payments for single case
R	12.2.6 permit receipts to be reprinted with same receipt numbers

12.3 Bookkeeping

This group of sub-functions applies to all case processing and addresses the activities associated with front counter record keeping, primarily involving payments from litigants and their representatives and receipts generated in return for these payments.

Table 12.3 --- Bookkeeping Sub-functions (all case processing)

Y	12.3.1 establish individual (e.g., for case or party) and combined (e.g., funds held short term by clerk) bank accounts when initial fees received for new case for subsequent use in back office
R	12.3.2 record and maintain front-counter bookkeeping information on receipts and disbursements
R	12.3.3 provide secure passwords for each cashier
R	12.3.4 identify cashier with all transactions
R	12.3.5 compute totals, list transactions, and balance for each cash drawer, register, cashier, and fee type
R	12.3.6 list contents of each drawer
R	12.3.7 print summary for each cashier including totals for each type of payment

R	12.3.8 list any discrepancies among payments, receipts, and cases over specific periods for each cashier for whom above summary shows imbalance for any type of payment
R	12.3.9 permit individual cashiers to open and close at least daily
R	12.3.10 allow supervisor to correct payment type (e.g., cash, checks, credit card receipts, fee waivers, money orders) with proper security provisions
R	12.3.11 suspend cashier operations multiple times during day
N	12.3.12 permit transactions that arrive after cashier closeout to be entered as transaction for next day or with proper and secure override, as same day transaction
R	12.3.13 print system-wide daily cash receipts journal

13. Accounting - Back Office Function

The activities associated with back office financial record keeping and related functions such as maintaining account records; conducting funds transfer and other financial transactions; and producing reconciliations, statements, reports, and other documents.

Sub-functions. Within the Accounting - Back Office Function, the sub-functions are grouped into account management; funds transfer, distribution, and disbursement; updates to accounts and other records; and summaries.

13.1 Account Management

This group of sub-functions addresses the activities associated with maintaining accounts, identifying and alerting users to abnormal conditions and producing supporting documentation, maintaining cross references to records external to the system, and maintaining code translation tables that pertain to accounting. As shown below, these sub-functions apply to case processing, financial, or both.

Table 13.1 --- Account Management Sub-functions (case processing)

Y	13.1.1 maintain financial parts of case files and CCS
Y	13.1.2 debit accounts established by attorneys to cover court expenses, and credit attorney accounts based on electronic funds transfers from attorney bank accounts, debiting attorney credit card accounts, and writing on-line checks
Y	13.1.3 maintain standard tables for court costs and fees

Table 13.2 --- Account Management Sub-functions (case processing or financial)

Y	13.2.1 maintain and track various types of individual (e.g., case or party) and combined (e.g., funds held short term by clerk) bank accounts (e.g., interest bearing, non-interest bearing, installment, pay-through) and balances by case, due date, and party (a few accounts, such as attorney accounts and funds held short term by clerk, are case processing; most accounts, such as trusts and most escrow accounts, are financial)
Y	13.2.2 identify and record arrearages, generate alerts when scheduled payments not made), and take or prompt user to take appropriate action
Y	13.2.3 send notices via e-mail or integrated messaging system

Table 13.3 --- Account Management Sub-functions (financial)

Y	13.3.1 track status of accounts referred to other agencies or organization
Y	13.3.2 produce correspondence such as payment notices and dunning letters

13.4 Funds Transfer, Distribution, and Disbursement

This group of sub-functions addresses the activities associated with distributing fees to other governmental units (e.g., law enforcement, state and local treasurers), sharing financial information with other governmental and private entities (e.g., banks, collection agencies), and processing disbursements. As shown below, these sub-functions apply to case processing, financial, or both.

Table 13.4 --- Funds Transfer, Distribution, and Disbursement Sub-functions

Y	13.4.1 record funds received from other local, state, and private units
Y	13.4.2 share information with state agencies to coordinate collection of court-ordered payments
Y	13.4.3 place hold on all disbursements
Y	13.4.4 provide information for disbursement of undistributed or unclaimed moneys (e.g., jury fees posted for settled cases, unreturned checks for moneys paid by court), update ledgers, and produce reports
Y	13.4.5 electronically authorize and transfer collected fees to other units
Y	13.4.6 compute parts of fees to be distributed to other local and state units according to predefined formula (e.g., portion of fees for county parks, county library, other purposes) and permit distribution formula override by appropriate authority
Y	13.4.7 compute parts of fees to be distributed to other local and state units according to predefined formula and distribute these moneys electronically

R	13.4.8 produce reports showing distribution formula, moneys distributed to other local and state units over specific period, and how formula was used to compute distributions
Y	13.4.9 initiate, print, and disburse sequentially numbered checks, stop issuance on checks, void checks, identify and process outstanding checks, report on checks that have cleared, and record checks on check register
Y	13.4.10 initiate, print, and disburse refund checks individually or cumulatively over specific periods (e.g., for filing fees collected in error); record checks on check register

13.5 Updates to Accounts and Other Records

This group of sub-functions addresses the activities associated with processing financial transactions, calculating charges and producing bills for amounts owed the court, and processing bank deposits. As shown below, these sub-functions apply to case processing, financial, or both.

Table 13.5 --- Updates to Accounts and Other Records Sub-functions

Y	13.5.1 post case-related receipts to accounting records and CCS; associate receipts with proper case, account, or case activity
Y	13.5.2 post case-related disbursements to accounting records and CCS; associate disbursements with proper case, account, or case activity
Y	13.5.3 display or print lists of transactions (e.g., receipts, disbursements, interest accruals listed by fee type or chronologically) for specific cases and accounts over specific periods
Y	13.5.4 record changes to accounting records that result from court orders (e.g., order for refund of jury fees) and modify appropriate records
Y	13.5.5 post (as noted above), process (i.e., tasks noted throughout these accounting sections), and track (e.g., principal, interest, costs, attorney fees) garnishments and partial payments
Y	13.5.6 post interest accruals to accounting records (e.g., interest accrued daily to overall account, such as for all trust accounts, and post to individual trust accounts at end of month); associate accruals with proper account
Y	13.5.7 generate and print invoices for and document collection of all monies
Y	13.5.8 apply corrections without changing or deleting transactions, record and store adjusted financial entries (e.g., bank adjustments for errors or bad checks), and modify amounts due with proper authorization
Y	13.5.9 post non-case-related receipts to accounting records and associate receipts with proper account
Y	13.5.10 post non-case-related disbursements to accounting records and associate disbursements with proper account

Y	13.5.11 accrue charges to case based on occurrence of specific events (e.g., motion filed), periodically apply debits and costs to accounts (e.g., attorney and media accounts), and produce account statements
Y	13.5.12 create payment schedule, apply payments received to scheduled amount due, and produce reports on overdue amounts
Y	13.5.13 Calculate and record bank deposits

13.6 Summaries

This group of sub-functions addresses the activities associated with generating the various listings and reports that document financial activities (e.g., transactions, reconciliation, audit trails) over specific periods (e.g., daily, weekly, monthly, quarterly, annually). As shown below, these sub-functions apply to case processing or financial.

Table 13.6 --- Summaries Sub-functions

Y	13.6.1 for specific periods produce separate reports showing (1) cases for which fees received, no fees received, fees waived, no fees due; (2) all adjustments to accounts; (3) accounts receivable or payable for each case
Y	13.6.2 list bank deposits in various groupings (e.g., totals for cash, check, credit card) showing account in which funds to be deposited
Y	13.6.3 print bank deposit slips for specific banks and periods
Y	13.6.4 for specific periods, compare court record of checks with bank record of checks; produce list of discrepancies, outstanding checks, and current court and bank balances; reconcile bank accounts; produce report giving discrepancies for all reconciliation
Y	13.6.5 produce list of items that remain open for accounts that carry balance forward from one period to next period
Y	13.6.6 produce trial balance (e.g., at end of month before posting to general ledger) and balance reports for each account over specific period
Y	13.6.7 produce pre-check register (e.g., to view checks prior to printing register) and check register over specific period
Y	13.6.8 total and reconcile receipts over specific period for multiple cashiers to calculate bank deposits
R	13.6.9 produce summary reports for each cash drawer, cash register, and cashier
Y	13.6.10 produce report containing information on fees waived and associated payments
Y	13.6.11 produce report showing financial status and history (e.g., information on transactions, account balances, discrepancies) for each account
Y	13.6.12 generate other periodic financial reports based on various criteria including at least account aging, audit trail, and journal reports
Y	13.6.13 produce lists arranged according to user-selected criteria for any type of financial transaction

13.7 Accounting - General Ledger Function

The activities associated with general and subsidiary ledger functions.

Sub-functions. The general ledger sub-functions are all financial.

Table 13.7 --- Accounting --- General Ledger Sub-functions

Y	13.7.1 create and maintain system-defined and user-customized chart of accounts
Y	13.7.2 maintain journal and, if appropriate, subsidiary ledger for each account by posting debits, credits, and adjusting entries
Y	13.7.3 populate subsidiary ledger automatically using data from other parts of system
Y	13.7.4 reconcile and balance all accounts
Y	13.7.5 create general ledger by posting journal entries, subsidiary ledger totals, and other information to each account in chart of accounts

14. File, Document, and Property Management Function

The activities associated with (1) creating, storing, managing, tracking, archiving, and disposing of manual, electronic, and imaged case files; (2) managing electronic and imaged documents; and (3) receiving, tracking, and returning or destroying exhibits and other property gathered by the court relative to its cases (but not fixed assets and similar property of the court).

Within the context of this appendix, file management refers to case files stored either manually or on a computer medium (e.g., magnetic or optical disk). Case files must be tracked from the time the case is initiated until the files are destroyed. For manual files, this means tracking their physical location during their entire life cycle as active, inactive, archived, and destroyed files. Since multiple users can access electronic files concurrently with no movement of physical files, tracking the physical location of electronic files is relevant only when their storage medium (e.g., magnetic or optical disk) has been moved to an off-line facility (e.g., separate storage location for disks containing archived records).

These standards generally apply to imaged files without delving into the specifics of an imaging operation (e.g., scanning, retrieval, storage), but they do assume an imaging capability.

Document management embraces the input and output, indexing, storage, search and retrieval, manipulation, maintenance, protection, and purging of electronic and imaged documents. Some document management systems may provide advanced capabilities in the above functions, as well as additional features such as document version control and workflow for document routing to specific workstations. At least rudimentary document management capabilities must exist either in the case management system or in a separate document management system that can interface with the case management system. In addition to this section, the Document Generation and Processing Function and Security Function describe these rudimentary document management standards. The System Capabilities section part of Related Technical Considerations (Appendix A) discusses advanced capabilities.

Exhibits and other property consist of items submitted to substantiate a litigant’s case or to provide needed information to the court.

Sub-functions. Within the File, Document, and Property Management Function, the sub-functions are grouped into file tracking, file archival and destruction, reporting and utility, document management, and exhibit management.

14.1 File Tracking

In accordance with local and state rules governing record retention, case records must be identified when they are created at case initiation; stored as active, inactive, and archived files as they progress through their life cycle; and tracked until they are destroyed. Therefore, the record custodian must know the location of case files at all times.

The file tracking sub-functions differ depending on whether the files are manual or electronic. As noted above, the physical location of manual files must be tracked during their entire life cycle. Conversely, as long as electronic files reside on the system's primary storage medium (presumably on-line storage), their location need not be tracked. Usually this situation prevails when the files are active and sometimes when they are inactive (e.g., depending on the reason they are inactive). Archived electronic files usually are moved to off-line storage.

The sub-functions given below cover file tracking through the life cycle of case files—when they are active, inactive, archived, and destroyed—to the extent local and state rules allow for these life-cycle stages.

Table 14.1 --- File Tracking Sub-functions

Y	14.1.1 generate labels for manual case files
Y	14.1.2 generate indicators (e.g., color coded labels) with information on checked-out manual files to replace those files in cabinet
Y	14.1.3 track manual case files from time checked out of clerk's office through each borrower until returned to clerk's office relative to location, borrower, date removed, reason file needed, date returned or transferred, and other data
Y	14.1.4 maintain location (e.g. storage facility, location in facility, reel number, and location on reel) for manual and electronic archived files
Y	14.1.5 maintain last location of manual and electronic destroyed files
Y	14.1.6 maintain audit trail of each case file location with information similar to that noted above for file tracking
Y	14.1.7 print barcode information on labels and other physical documents; permit scanning of barcodes to eliminate or reduce data entry

14.2 File Archival and Destruction

In accordance with local and state rules for record retention as noted above, both manual and electronic case files pass from active to inactive status, and eventually manual files are archived and ultimately destroyed. At some point in its life cycle, the file is moved from on-line storage to off-line storage and eventually sent to an offsite storage facility. While the file resides in off-line computer storage, many courts retain summary information on the case in active storage to help access the archived file.

Table 14.2 --- File Archival and Destruction Sub-functions

Y	14.2.1 identify cases to be archived and later destroyed depending upon user established criteria which may include case types or other defining characteristics
Y	14.2.2 identify cases to be retained permanently
Y	14.2.3 process files according to local and state rules for becoming archived, destroyed, or transferred to storage facility
N	14.2.4 identify summary information to be retained in active or semi-active files
Y	14.2.5 generate and print reports showing archived and destroyed or transferred cases

14.3 Reporting and Utility

Case processing systems often perform various reporting and utility functions as part of file management.

Y	14.3.1 create/save/modify/delete report logic and pre-existing logic for data extraction and printing
Y	14.3.2 select, sort, extract, and print all data
Y	14.3.3 allow for data selection based on complex statements using Boolean logic including “and”, “or”, “if”, “then”, “except”, “greater than”, “less than”, “equal to”, “not equal to”
Y	14.3.4 all data fields accessible by the report utility
Y	14.3.5 support the creation of calculated data fields for reports including percent, mean, mode, median, addition and subtraction, and ranking or sorting by frequency
Y	14.3.6 provide both a report format default and user-defined format of column headings and data positioning on the report
Y	14.3.7 capable of creating ODBC-compliant files to export data
Y	14.3.8 allow for free form output for notices and other non-tabular court documents through report generator
Y	14.3.9 provide the capability for on-demand document generation via Microsoft Word
Y	14.3.10 all reports may be produced upon request by the users with the appropriate security restrictions
Y	14.3.11 ability to generate mailing labels, envelopes and data mailers
Y	14.3.12 sort reports in an order specified by the user
Y	14.3.13 provide case information reports based upon user criteria
Y	14.3.14 generate cross-table case information reports

Y	14.3.15 allow for on-line access to reports
Y	14.3.16 provide a basic audit report of various transactions/entries performed
Y	14.3.17 create reports regarding the number of cases outstanding based on user criteria
Y	14.3.18 prevent unauthorized users ability to produce ad hoc reports
Y	14.3.19 generate reports on file management activities
Y	14.3.20 perform utility functions (e.g., copy information such as CCS entries and parties) from one case to another
Y	14.3.21 provide reports in Microsoft Excel format, or in a format that is easily imported into and used by Microsoft Excel and Microsoft Access

14.4 Document Management

Document management addresses the rudimentary document management capabilities for electronic and imaged documents (with the proviso that these standards do not assume an imaging capability) received from sources such as electronic filing, the Internet, local or remote scanners or facsimile machines, and case processing and word processing systems (see Appendix B for a discussion of electronic filing). The documents include the internally generated forms, letters, and brief reports described in the Document Generation and Processing Function. Document management capabilities must exist either in the case management system or in a separate document management system that can interface with the case management system. The capabilities shown in the table below are in addition to those noted in the File Tracking and the File Archival and Destruction section of this function and in Document Generation and Processing Function and Security Function.

Table 14.4 --- Document Management Sub-functions

R	14.4.1 provide for input, output, storage (including indexing or an equivalent capability), and search and retrieval of electronic and imaged documents
R	14.4.2 provide capability to toggle between views of several different documents
R	14.4.3 provide capability to interface with document management system that is separate from case processing if case management system excludes document management capabilities
R	14.4.4 provide capability to use same document management system for imaging if imaging is included in overall case processing
R	14.4.5 provide for manipulation and maintenance of electronic or imaged documents, including an audit trail and security features for images corresponding to other data in the system

14.5 Exhibit Management

Exhibits and other property must be identified when received and tracked in an analogous manner to files.

Table 14.5 --- Exhibit Management Sub-functions

N	14.5.1 record receipt of exhibits and other property (including party submitting, exhibit or property description, exhibit or property status such as submitted into evidence), generate tag for exhibits and other property, relate to specific case, generate receipts
N	14.5.2 generate exhibit and property numbers or other identifiers
N	14.5.3 track location and status of exhibits and other property
N	14.5.4 record return or destruction of exhibits and other property
N	14.5.5 generate notices (1) to reclaim exhibit or property when court's usage completed and (2) to inform owner that exhibit or property destroyed
N	14.5.6 print or display lists of exhibits and other property according to case, party, and other parameters

15. Security Function

The activities associated with ensuring the integrity of the case management system, its data, and its documents during normal operations and after a system failure or outage. This is accomplished through a combination of features in the case processing application software, the normal computer hardware and system software, and special-purpose hardware and software. Systems must have multi-level security allowing for wide flexibility in access, editing and creation of records, as well as in reporting, archiving, and deleting information from the system. The CMS application software should contain carefully designed input edits to improve data quality and integrity by checking data entered into the system.

Security sub-functions are:

Table 15.1 --- Security Functionality

Y	15.1.1 system administrator can define access control from the system login prompt to the court application
Y	15.1.2 user password level security
Y	15.1.3 screen level security
Y	15.1.4 group or department level security
Y	15.1.5 organization level security
Y	15.1.6 function level security (i.e. entry, update, delete, etc.)
Y	15.1.7 security levels by groups and by individuals established by court system administrator
Y	15.1.8 ability to provide on-line access across sub-system boundaries or to restrict access across sub-systems

N	15.1.9 support for digital signatures or other electronic authentication standards
Y	15.1.10 support for security based on case type
N	15.1.11 support for case level security
Y	15.1.12 perform user-defined edit and data validation checks such as content of each individual data field (e.g., proper format for a date) and relationship of data field to other data
N	15.1.13 ensure each document and its contents sent by user (e.g., attorney) matches with that same document and its contents received by court for electronically filed cases and other information received electronically to ensure that court is referencing and retrieving correct information
Y	15.1.14 ensure electronic records cannot be modified without supervisor notification
Y	15.1.15 allow access and similar privileges based on authorizations defined, maintained, and controlled by users
Y	15.1.16 restrict local and remote access and permissible operations (i.e., view; add; change; delete; combinations of view, add, change, delete; and output) on case types, case categories, files, parts of files, and system functions from other system functions, device
N	15.1.17 restrict local and remote access to certain cases and classifications of cases (e.g., sealed cases, mental health cases) from specific system functions, device (e.g., terminals, PCs) locations, users, and groups of users in accordance with rules, statutes, or court orders
Y	15.1.18 provide audit trails that show which users and workstation locations logged on to system during specified period, including all records in which changes or modifications were made by particular users during specified period (see 3.4.6 above)
Y	15.1.19 provide secure passwords for each user
Y	15.1.20 allow authorized user correction of individual or groups of cases when data entry error occurs
Y	15.1.21 maintain and display audit trail of file additions, modifications, and deletions (e.g., filings entered into CCS) including who made entry, when entry made, whether date entered and date filed differ
Y	15.1.22 provide for disaster recovery (e.g., reconstruct status of system and its case processing and financial functions and data such as permitting access authorization tables and cash register totals to be reconstructed)
Y	15.1.23 permit individual records or data elements to marked and treated as confidential with accompanying restrictions on access
Y	15.1.24 conduct routine system tests based on established procedures that alerts supervisors to unusual or abnormal system activity, which could be potential security breach (eg. a court employee who is a party in a case changing a record they are associated with)
N	15.1.25 utilize card access, biometrics or other similar security device to eliminate passwords and authenticate users.
Y	15.1.26 capable of requiring user authentication before conducting certain, or all, transactions

16. Management and Statistical Reports Function

The activities associated with reporting caseload, case flow, and workload statistics and other court financial, operations, and staff management information. While the standard method of presenting this information would be printed reports, at least summaries of the information should be available through other types of presentations (e.g., graphs, charts) when requested by the user.

Sub-functions. Within the Management and Statistical Reports Function, the sub-functions are grouped into statistics and management information.

16.1 Statistics

As a by-product of day-to-day case processing, the system produces statistics that satisfy the reporting requirements of the Division of State Court Administration and other state agencies. These statistics appear in reports that are produced by the case management system.

The statistical reports generally fall into three categories: caseload, case flow, and workload. Caseload reports are based on the Weighted Caseload Measures and present statistics for each case category for a specific time period on the number of cases filed. Statistics would also be available for cases pending at the beginning of the period, the number of cases disposed or stayed during the period, and the number of cases pending at the end of the period. The reports also may provide details on these basic pending, filed, and disposed statistics.

Case flow reports present statistics for each case type and, in many instances, case category for specific time intervals based on the age of pending cases, case age at disposition, number of pending cases at each proceeding stage, and average time intervals between proceeding stages.

Workload analysis presents statistics for each case type and, in many instances, case category based on trends.

To produce statistics beyond the local case management system, statistical reporting must occur from the local system to the local, state, and possibly national levels. To satisfy this requirement, electronic interfaces should exist between local systems and systems of at least the local and state court administrators. Also, there must be a means of consolidating data from local systems to produce uniform state-level statistics, such as could be accomplished through data warehousing.

Table 16.1 --- Statistics Sub-functions

Y	16.1.1 satisfy reporting requirements of Division of State Court Administration and other state agencies as necessary
Y	16.1.2 verify data sent to judicial branch and state agencies using techniques such as aggregate totals
Y	16.1.3 transfer statistical and case data to judicial branch and state agencies electronically
Y	16.1.4 produce caseload, caseflow, and workload reports, based on Weighted Caseload Measures or by other count or list of cases
Y	16.1.5 produce statistical reports associated with financial activities

Y	16.1.6 incorporate data from diverse courts throughout state into uniform statewide statistics
Y	16.1.7 interface and be fully integrated with robust report writing software customizable by user (e.g., Crystal Reports or other similar recognized report generation software)

16.2 Management Information

While management reporting is a mandatory capability for every case management system, the specific management reports needed by a given court depend on highly personalized management styles. There are, however, some reports that any court needs, and these reports are designated as mandatory in the sub-function table below. The reports designated as optional are only a few examples of the many reports that case management systems could produce.

Some management reports, presumably the mandatory reports and selected other reports, are preprogrammed into the case management system, and some are generated on an ad hoc basis. The judicial officers and other managers in each court must decide which reports they need on a continuing basis, and these reports would be preprogrammed. Invariably a court will need additional reports as conditions, personnel, and preferences change, and those additional reports can either be programmed or created on an ad hoc basis and saved.

As used in this section, the term “reports” refers to outputs to display devices and to file extractions for transfer to other systems, Internet posting, or the standard printed output. The detailed content and format of these outputs, even though preprogrammed, would be determined by the local court users.

Table 16.2 --- Management Information Sub-functions

Y	16.2.1 produce reports listed below as printed reports, displays, or extracted files suitable for transfer to other systems or Internet posting
Y	16.2.2 produce report that permits judicial officers to monitor conformance with time and other performance standards established by statute or rule
Y	16.2.3 produce various detail and summary reports giving CCS contents for specific cases and groups of cases by case and party
Y	16.2.4 produce various detail and summary reports giving CCS contents for specific persons and groups of persons by case and party
Y	16.2.5 produce report that summarizes calendars sorted according to various criteria
Y	16.2.6 produce report similar to calendar summary described above that shows whether specific cases have been disposed with cross references to calendars in which they were disposed
Y	16.2.7 produce report identifying amounts owed and waived for each person or organization
Y	16.2.8 list cases (all, active, inactive) for specific attorney and provide related information

Y	16.2.9 provide audit trail reports that show (1) which users and workstation locations logged onto system during specified period and (2) file additions, modifications, and deletions including who made entry, when entry made, whether date entered and date filed differ
Y	16.2.10 list and give supporting information on all cases with open judgments
Y	16.2.11 list and give supporting information on all cases with open warrants
Y	16.2.12 list all cases that have been continued over specific period according to various criteria and give supporting overall information
Y	16.2.13 capture and track duration of trials by user-specified criteria such as courtroom, judicial officer or other judicial officer, whether jury or non-jury, and how estimated duration of trial compares with actual duration
Y	16.2.14 produce report showing status of motions and related petitions and requests including motions waiting for hearing or under advisement
Y	16.2.15 capture and track locally defined milestone events (e.g., initial filing, answer or response, settlement conference) for specific cases or groups of cases (e.g., case classification such as medical malpractice, judicial officer, court division), giving more flexible case flow information (e.g., elapsed time between user-specified events) than is available in standard statistical reports described in previous section
Y	16.2.16 maintain and report on current and past judicial officer assignment (including specific cases, case types, case categories), recusal, challenges, hearing results, reassignment, disqualification with reasons where appropriate
N	16.2.17 produce index of executions on judgments and garnishments sorted according to various criteria

Other Related Technical Considerations

While the functional capabilities of the case management system are of paramount importance, numerous other capabilities should be considered during the system definition phase, with the proviso that many of them are sophisticated and may be difficult and costly to implement and maintain. A few of these capabilities may represent emerging and unproven technologies and should simply be monitored for future inclusion in the system. This monitoring should include knowledge of any standards (e.g., for individual schedulers, Internet markup or tagging, electronic signatures) applicable to these technologies. Even though these other capabilities are not part of the functional standards, they are summarized in this section to serve as additional items that may become part of system requirements

Data Warehouse

The functional standards established for a state-of-the-art CMS contemplate the use of a data warehouse for storage of data elements and access by judicial employees, other government employees, and members of the general public. The data warehouse must be based upon a robust system architecture which may either be fully integrated into the CMS, or a third party solution that is seamlessly integrated into the CMS. The data warehouse must contain full-featured reporting facilities, be Internet-enabled, and must function to increase the accessibility, accuracy and timeliness of court information to the users previously mentioned.

External Interfaces

In addition to the basic terminal input and printer output and the other input and output methods set forth in the functional standards, the case management system must be capable of communicating with other technologies and systems. Optimally, this communication will include, without limitation, real-time bi-directional connectivity to the Indiana State Police, the Department of Correction, the Family and Social Service Administration, the Bureau of Motor Vehicles and other non-judicial agencies and entities. At a minimum, these interfaces must allow for elimination of the transfer of information recorded on paper and allow for some level of inquiry into the respective agency's database, subject to the approval and specification of the connected agency. The other technologies may be internal to the court but external to the case management system, or they may involve systems and users outside the court. The case management system must also be capable of interface with existing legacy court systems which may remain installed throughout Indiana.

Other Technologies Internal to Court

The case management system may communicate with some of the following input and output technologies within the court but be external to the system:

- Case processing among multiple court locations (e.g., filings at one branch; hearings at another branch), transfer of individual cases between locations, and transfer of multiple cases between locations in a single transaction (see also System Capabilities);
- Integration of case management system with modern courtroom technologies that assist in judicial decision making by gathering and displaying information from other courts, justice agencies, social service agencies, schools, and treatment facilities such as:
    - displays that judicial officers can read easily and quickly (e.g., bar or pie charts, thermometer- or speedometer-type displays),
    - consolidation of multi-system or multi-database information on one display for easy assimilation,
    - computer-searchable records of proceedings (e.g., court record, judicial officer's notes);
- Integration of case management system with modern courtroom technologies that permit more efficient operations such as electronic court reporting (e.g., digital audio and video recordings; correlation of video recordings with court records and judicial officers' notes; and single recordation of proceedings with multiple uses in court records, judicial officers' notes, orders, and other documents);
- Integration of case management system with legal research (e.g., capability to transfer text for court orders and other documents from legal research system to case management system and then to edit text);
- Data capture and file and property management using bar code, optical character recognition (OCR), and other technologies;
- Document capture, storage, and retrieval using imaging;
- Information capture and conversion to data and word processing formats using OCR;
- Integration of case management system with word processing and spreadsheet software to permit easy transport of system data into and out of word processing documents and spreadsheets;
- Generation of official output documents (for transmission or printout) by supplying data including data transferred from word processing documents to imaged documents with official text, seals, and signatures;

- Integration with other technologies and systems such as individual schedulers (e.g., automatic updates to judicial officers' schedules, extracts of tagged parts from Internet-based court calendars to update law firm schedules), e-mail (see also System Capabilities in this appendix and Multifunction Capabilities and Integration in Standards for Individual Functions), and jury management systems; and
- Document printouts on special-purpose paper and forms (e.g., multipart forms and mailers).

Input and Output External to Court

Systems and users that are external to the court and, therefore, external to the case management system may combine basic input and output methods with new technologies or substitute new technologies for the basic methods. The input and output technologies support users such as other types of local courts, other courts statewide, the state judicial branch, litigants, the public, attorneys, state agencies, and other individuals and organizations. The technologies include:

- Electronic access to CCS's, documents, and other court records by attorneys of record, credit agencies, and other official users employing dial-up lines, Internet or intranet enablement, and other technologies;
- Electronic access to selected court records (e.g., calendars and other event schedules, payment schedules, payment status, account status, land records, liens), blank forms, and instructions (e.g., document submission procedures) for on-line use by attorneys' offices, title companies, academic researchers, self-represented litigants, and the general public employing voice response technology, kiosks available to the public, Internet enablement, e-mail, and other technologies;
- Distribution of blank court forms (e.g., to attorneys' offices for use in submission of hard copy pleadings) using Internet or intranet enablement, facsimile (fax) transmissions, e-mail, and other technologies to avoid preprinted forms;
- Integration of case management system with input and output needs of handicapped persons (e.g., through voice and other technologies that do not require keyboard and mouse entries);
- Integration of case management system with input and output needs of non-English speaking persons (e.g., through multilingual system capabilities);
- Integration of case management system with handheld and other mobile computers using wireless communications (e.g., for remote input, remote output, limited remote computing);
- Accounting interfaces in accordance with local and state standards:
    - payments by the public using voice-response technology, kiosks available to the public, Internet enablement, and other technologies,
    - enhanced and expanded use of electronic funds transfer over standards described in Multifunction Capabilities and Integration and accounting functions (this could include payments from litigants, attorneys, banks, collection agencies, and others and transfers to state and local agencies, attorneys, vendors, banks, collection agencies, and others),
    - electronic interface for records access and comparisons (e.g., between courts and banks, credit agencies, and other financial institutions),
    - electronic check processing (e.g., endorse back of checks and money orders in addition to recording and listing transactions and printing receipts); and
    - Use of more sophisticated modern technology for functions that already are standards described in the functional standards. For example, electronic

information exchange could be enhanced so it occurs more seamlessly, uses more refined “push” and “pull” technology, uses the Internet or an intranet instead of dial-up lines or facsimile transmissions, and employs enhanced security. This could include upgrades to electronic filing; electronic document distribution; electronic input documents (for online form completion and submission in electronic filings); procedures for “stamping” electronic documents as received or sent and for “signing” electronic documents; and security features such as user authentication (verify who sent data), data integrity (verify same data sent and received), and nonrepudiation (sender cannot later deny sending information). The Multifunction Capabilities and Integration and the Security Function sections discuss these capabilities.

Inquiry

System users need the capability to create queries and retrieve information from the database using on-line inquiry software with the following capabilities:

- Easy-to-use queries created by users with minimal training;
- Inquiry as stand-alone function or sub-function of case management system data entry;
- Varied and flexible inquiry keys (e.g., case number, case type, party, attorney, event) and other search criteria as noted below;
- Variety of user-defined searches including phonetic, Boolean logic, substituting “wildcards” for a limited number of unknown characters, date range, and progressively more detailed queries;
- Inquiry and retrieval of individual database items or groups of database items (e.g., individual or multiple judicial officers, attorneys, parties, cases, CCSs, calendars, hearings, other events and their results, tickler information);
- Retrieval of information on related events (e.g., all CCS entries pertaining to particular hearing type for specific case, all pending motions in case for which new motion filed);
- Retrieval of information on related cases;
- Scroll backward or forward through information retrieved through inquiry;
- Retrieved information presented in variety of user-defined formats and groupings (e.g., by date range or party);
- User option to print any display; and
- Modification of displayed information and sorting options on some display screens with proper user authorization.

Report Generation

Typically, printed reports are standard (i.e., preprogrammed) and ad hoc (created for onetime or limited use). While standard reports generally cause no problem (assuming they do not proliferate and IT staff members are available), the same cannot be said of their ad hoc counterparts.

Users often need printed reports on a one-time basis to respond to reasonable inquiries from third parties and judicial managers. They must be able to obtain these reports in a timely manner, which usually precludes the lengthy turnaround time required to write customized programs. The solution is report generation software that, like the inquiry software noted above, allows users to create their own reports. While this approach is appealing to users who want reports with no IT intervention, it often leads to problems for IT—the volume of reports created and run by users inundates the computer and causes processing deadlines to be missed.

Possible solutions are for IT staff members to use the software to create and run reports for the users or to utilize query optimization software that minimizes response time (see also next section on System Capabilities).

The tradeoffs of the various report generation approaches must be considered as part of any evaluation of standard and ad hoc report generation software, which would have the following capabilities:

- Detail and summary ad hoc reports capable of being created rapidly by user (or IT staff members) with minimal training;
- Formatting and content flexibility in ad hoc reports;
- Detail and summary standard reports that satisfy local, state, and federal requirements imposed by judicial, executive, and legislative branches (see also Management and Statistical Reports Function);
- Ad hoc and standard reports produced locally or exported to other offices and jurisdictions for printing;
- User ability to save ad hoc report formats they create for future use; and
- User option to display whatever is to be printed either as a normal display or as a print preview.

System Capabilities

Technical systems functions and capabilities comprise the final group of related technical considerations which, once again, are not functional standards. While the functional standards address case processing functions (e.g., CCS and calendaring) and their sub-functions (e.g., recording and maintaining case header and event information within CCS), technical systems functions and capabilities address hardware, system software, and design issues. As with the other related technical considerations, the admonition to consider the implementation and maintenance impact is extremely relevant here. The items in this group include:

- Need for a scaleable system that can efficiently support small, medium, and large courts. For example, large court systems may need to support multiple court divisions and locations, extensive use of alternate dispute resolution (ADR) providers such as mediators and arbitrators, multiple clerks' office locations, user interfaces (e.g., system screens) that accommodate compartmentalized clerk's office operations, and other capabilities attendant to high-volume operations. Conversely, small court systems may need to support user interfaces and processing geared to only a few court divisions (e.g., civil, criminal, traffic), limited or no use of ADR providers, one clerk's office location, and a few clerical personnel in a single office handling the record keeping for a case. In either situation, the appropriate tradeoffs between manual and automated functions must be achieved.
- Need for table-driven and modularly designed systems.
- Need for assistance from the system in automatically scheduling events based on completion of prior events (e.g., deadline for answer or response due 30 days after service to defendant) and producing documents (e.g., notices, calendars) associated with the scheduled events. Fully functional event-driven systems provide this capability, primarily in some large courts, by permitting the user to define case processing profiles (e.g., containing processing rules and schedules for each event) for each case type and case category (e.g., tort, contracts, real property rights, small claims) within the civil case type (see also List of Code Translation Tables). Ideally, the case processing profiles

define all steps, but given the complexity and variability of caseflow, user overrides and the capability to add steps to the defined caseflow must be available.

Such systems usually involve highly complex programming and can be extremely difficult and costly to develop, implement, and maintain. The standards in this appendix call for capabilities that address a few functions of these event-driven systems within individual functions based on the completion or scheduling of specific events. This partial functionality generally applies to courts of all sizes. Examples are (1) updating case indices, CCSs, and case and financial records; (2) scheduling future events; (3) generating notices; and (4) computing fees. These are covered in the standards for the Case Initiation and Indexing, CCS and Related Record keeping, Scheduling, Document Generation and Processing, Hearings, and accounting functions.

- Items that the user should be permitted to define either when the system is implemented or on an ongoing basis such as code structure, code translation table content (i.e., what will be represented by codes such as events, results of events, attorneys, party type), and notice and receipt formats.
- What the system defaults to initially or when there is no entry of specific data.
- Requirements to navigate for specific data among screens by using point-and-click, function keys, drop-down menus, and other capabilities.
- Need to display related data entry screens, information, and prompts triggered by specific event or entered data.
- Complete help screen capabilities that contain information on a comprehensive array of topics, permit easy searches for and indices of topics, and provide easy-to-understand instructions for using each part of the system. The instructions should be available in display or printed form and should be easily updated to reflect system changes.
- Use of specific software packages for functions such as improved report writing (for easier creation of standard and ad hoc reports; see earlier Report Generation section and Management and Statistical Reports Function).
- Use of enhanced document management functionality that interfaces with or is part of the case management system. This would provide additional functionality, such as workflow and document version control, and improvements in existing document and text indexing, storage, search and retrieval, manipulation, maintenance, and input and output (e.g., through electronic filing, Internet enablement, imaging, and conversion from imaged characters to data or word processing formats using OCR). The Multifunction Capabilities and Integration section and File, Document, and Property Management Function discuss document management standards.
- Use of distributed processing (with the same case management system or different systems) as a means of accommodating multiple court locations (see External Interfaces). This assumes the highly complex tasks of allocating processing functions, allocating data, and defining the network and its usage have been done properly and can be maintained.
- Use of relational database, object-oriented design, advanced programming, data warehousing (see also Management and Statistical Reports Function), and other recent system development and database technologies.
- Database design and data element definitions that permit easy inquiry and data access.
- Query optimization software that minimizes response time.
- Customized and easy-to-understand views of relational data for various users (e.g., judicial officers, clerks).
- Need for e-mail integrated with case processing to permit easy distribution of schedules, court minutes, drafts of documents sent out for review, and other documents and

information. For this capability to be effective, a comprehensive and maintainable directory must be available to permit communication among users of different e-mail platforms (see External Interfaces section).

Electronic Filing

Some emphasis is presently being placed on electronic filing efforts that are based on a model developed in the Legal XML community. Legal XML is a non-profit organization comprised of volunteers from private industry, non-profit organizations, government, and academia whose efforts are to develop open, non-proprietary technical standards for legal documents. Because components of this XML concept can change, the reader should review www.legalXML.com before starting a new design or a modification of an existing design. The Legal XML Electronic Filing concept model is further described in this section. Although Indiana has not formally adopted the Legal XML standards or approach, electronic filing will certainly become important in the design and implementation of the CMS.

The components of this model are:

- Filers. Attorneys, law firms, litigants, state and county agencies, or anyone who has cause to file documents with a court.
- EFSP (Electronic Filing Service Providers). These are business entities that provide electronic filing services and support to their customers (filers). They provide a means for filers to submit documents to courts, electronically forward those filings to courts, and direct responses from courts back to the respective filers. Given the advent of open standards and a level playing field with universal electronic access to courts, it is assumed that many providers will develop applications for electronic filing. They will offer a range of services and products designed to attract specific segments of the market, ranging from large to small law firms, solo practitioners, or anyone who wishes to file court documents.
- EFM (Electronic Filing Manager). This is a software application that accepts XML from an EFSP, analyzes it, passes data to the CMS, saves documents if the CMS is not itself equipped to do so, and returns XML-formatted CMS-generated data to the EFSP. To the extent that the XML is standardized statewide, any EFSP should be able to interact with any EFM, and therefore with any court CMS interfaced to an EFM application.
- CMS (Case Management Systems). These are the applications courts use to track and manage caseloads (a heterogeneous CMS environment is assumed). So that EFM's can be readily connected to CMS's, case management systems will need to support an API (Application Program Interface) designed to talk with EFM applications. Developing an API is a job for CMS vendors or court software developers or their contractors. It is also possible that, over time, various vendors will embed the EFM function in their CMS products.

Many electronic filing applications allow filers to communicate directly with an EFM as well as through an EFSP. This technical approach to court filings establishes the basis for a competitive, market-oriented environment ultimately enabling any filer or EFSP to exchange filings with any court.

In time, the EFM module of an electronic filing system will become an integral feature of the case management information system. System designers should include this CMS module in their long-range development plans. In the short term, a case management information system must provide an application program interface to an external EFM module. Any CMS must be capable of interacting through such an API with any EFM system.

The CMS should also include a "delayed CCS queue" capability which (1) serves as a cache of electronically filed documents and associated cover sheet information received by the court but not yet entered on the CCS, (2) gives a court clerk the ability to review the submitted document together with the submitted cover sheet information to determine their acceptability for entering on the CCS, and (3) allows the clerk automatically to accept, reject, or modify the proposed CCS entry or new case information supplied on the cover sheet and accept, reject, or hold the document submitted for filing. This delayed CCS queue is an essential quality control component of an electronic filing system but should be a component of the case management information system rather than the electronic filing application.

Portions of this material have been reproduced from documents provided by the National Center for State Courts as well as the Indiana AIMS Project.

APPENDIX B. STANDARD DOCUMENTS

This is an Education Services Agreement between:_____("Client") having its principal offices at _____and Computer Associates International, Inc. ("CA") having its principal offices at One Computer Associates Plaza, Islandia, New York 11749.

In exchange for Client's agreement to pay the fees set forth herein, CA shall provide the following education services deliverables listed below in Sections I, II, and III:

Training Credit Units (TCUs) http://www.ca.com/education/ca_tcus.htm

Product Code for TCUs	Number of TCUs	Price per TCU	Total

Education Learning Path Bundles www.ca.com/education/bundles.htm

Learning Path Bundle Product Codes	Title of Learning Path Bundle	Bundles Purchased	Price per Bundle (Unit Price)	Total

Computer Based Training (CBT) Products http://www.ca.com/education/cbt/

CBT SKU Codes	CBT Titles	Maximum Number of Users	Number of CBTs	Price per CBT	Total*

Grand Total: **$**_____

This Agreement shall commence on _____ __, 2001_ ("Effective Date") and expire one year later.
*Fees are set forth separately for licenses for a CBT Subscription Library for multiple years.

Client Contact
Unless otherwise directed in writing, CA will forward all correspondence relating to this Agreement to the following named contact: Site ID Number_____

_____
If Tax Exempt, number (attach certificate):
Name _____ Title _____
Telephone Number_____
Street Address_____
City_____ State_____ Zip Code_____

The client is responsible for ensuring that all necessary hardware, software and other equipment is installed and working properly prior to an on-site class.

For further information on CA Education Services, please visit www.ca.com/education or call 1-800-237-9273
This offer may not be available in all countries. Please contact your local representative for details. All product names referenced herein are trademarks of their respective companies.

On-site Services Cancellation Policy:

The scheduled dates may be canceled, without penalty, by notifying Computer Associates in writing, at least eleven (11) working days before the beginning of the period of performance. Cancellation within six to ten working days prior to the start date will result in a cancellation penalty of fifty percent (50%) of the fee plus any expenses already incurred; cancellation with less than six working days notice will result in a cancellation penalty of one hundred percent (100%) of the fee plus any expenses already incurred. Expenses include but are not limited to non-refundable airline tickets, room rental, and equipment rental.

Computer Associates reserves the right to cancel classes when necessary. Every effort will be made to give the registered individual appropriate notice. Normally, this will be no less than five working days before the first day of class. Because Computer Associates reserves the right to cancel classes, we do not advise the purchase of non-refundable airfare.

Terms and Conditions

When CA accepts this Agreement and Client pays all required fees (including applicable taxes and shipping), Client will be entitled to receive, subject to the terms and conditions of this Agreement, certain CA training classes as described in this Agreement in the format of Training Credit Units, Learning Path Bundles or Computer Based Training Products. The use of the Computer Based Training Products is also governed by the terms of any shrinkwrap license agreement provided with such products. Client may apply TCUs toward any of the courses available from CA's most recently published Client Education Catalog. Client must use all TCUs and Learning Path Bundles prior to the expiration of one year from the Effective Date, and no refunds will be available for unused TCUs and Learning Path Bundles. The value of a TCU or Learning Path Bundle will remain constant regardless of the price paid, which varies depending upon the number of TCUs and Learning Path Bundles purchased with each Agreement. Course descriptions are published with the number of TCUs required for one student to attend. Learning Path Bundle literature is published with an explanation of the total number of training days and exam vouchers per Learning Path Bundle. Upon acceptance of an order by CA, Client will receive a complete folder including the number of TCUs and/or Learning Path Bundles available as of the Effective Date, the most recently published Client Education catalog and other pertinent information.

Any information relating directly or indirectly to any software product of CA is confidential and proprietary to CA and all programs, documentation, reports, techniques, designs and other materials prepared or created by CA shall remain the property of CA and shall not constitute work made for hire under the Copyright Act. Client acknowledges the proprietary character of these materials, and agrees not to disclose such information to third parties or violate the confidentiality of such information, whether through its activities or through its employees or agents. Use of materials associated with any course is expressly limited to Client's own internal use and reproduction of any such materials is strictly prohibited.

If performance of the training is delayed due to Client's failure to provide required access or personnel or similar reasons, the use of TCUs and Learning Path Bundles associated with such scheduled training shall be deemed to have been used. Client shall pay all fees due to CA promptly upon receipt of CA's invoice. If Client breaches any term of this Agreement, CA shall have the right to terminate this Agreement immediately and collect all fees due to CA.

CA represents that training will be performed by qualified personnel in a professional manner. No other warranties, whether express or implied, including, without limitation, any implied warranties of merchantability or fitness for a particular purpose, are made by CA. In no event will CA be liable to Client or to any other party for any loss, including time, money, goodwill and consequential damages which may arise from the training hereunder. Client may not assign this Agreement or its rights and obligations under this Agreement without prior written consent of CA. CA, however, may assign this Agreement to any third party, provided that such party assumes the obligations of CA under this Agreement.

This Agreement represents the entire agreement between CA and Client with respect to the purchase of the education services, and the parties respective obligations and responsibilities, hereunder. CA and Client agree that all other agreements, proposals, purchase orders, representations and other understandings concerning the subject matter of this Agreement, whether oral or written, between the parties are superseded in their entirety by this Agreement. No alterations or modifications of this Agreement will be valid unless made in writing and signed by the

parties. No attachment, supplement or exhibit to this Agreement shall be valid unless initialed by an authorized signatory of CA and Client.

All notices, invoices and other communications hereunder shall be delivered to Client and CA at their respective addresses set forth in this agreement, unless changed by similar notice.

Accepted by:	***Accepted by:***
<Customer>	Computer Associates International, Inc.
_____	_____
Signature	***Signature***
_____	_____
Name (please print)	***Name (please print)***
_____	_____
Title	***Title***
_____	_____
Date	***Date***

LICENSE AGREEMENT

Computer Associates International, Inc. One Computer Associates Plaza Islandia, NY 11749 (631) 342-5224 FAX (631) 342-5329

This License Agreement between _____ and Computer Associates International Inc. ("Licensee") located at _____ ("CA") covers Program Products to be licensed by Licensee pursuant to Order Forms which may be submitted and accepted from time to time.

When CA accepts an Order Form, Licensee will have, subject to the terms and conditions of this Agreement, a nontransferable and nonexclusive license to use the Program Product(s), optional features, if any, and related materials (collectively the "Licensed Program") described in the Order Form(s) referencing this Agreement. This Agreement applies to all program code, documentation, training materials, and enhancements embodying or related to the Licensed Program and any subsequent versions or releases of the Licensed Program which may be delivered to Licensee and the definition of Licensed Program includes all such code, documentation, materials and enhancements.

USE OF LICENSED PROGRAM

This Agreement authorizes Licensee to use the Licensed Program(s), covered by Order Form(s) accepted by CA, only with the Designated CPU(s) of Licensee at the installation site of Licensee identified on the Order Form and only for the internal operations of Licensee and for the processing of its own data.

TITLE, CONFIDENTIALITY AND RESTRICTIONS

Title to the Licensed Program remains with CA, and the Licensed Program is a trade secret and the proprietary property of CA. Licensee and its employees will keep the Licensed Program strictly confidential, and Licensee will not disclose or otherwise distribute the Licensed Program to anyone other than Licensee's authorized employees. Licensee will not remove or destroy any proprietary markings of CA. Licensee will not permit anyone except its authorized employees to have access to the Licensed Program. Except for archive purposes, Licensee will not make or permit others to make copies of or reproduce any part of the Licensed Program in any form without the prior written consent of CA. In no event will Licensee decompile, disassemble or otherwise reverse engineer any Licensed Program.

If Licensee moves its computer installation, the Licensed Program can be transferred to the new location for use on the Designated CPU(s) without a relocation charge to Licensee, but Licensee must give prior written notice to CA of such move and confirm to CA that the old computer installation has been closed. If Licensee desires, subject to obtaining CA's prior written consent, to operate the Licensed Program subsequent to a change of control of Licensee or other than with the Designated CPU(s) or other than at Licensee's installation site identified on the Order Form, Licensee will be required to pay to CA the then applicable upgrade, supplemental, transfer or replacement fees of CA. In no event can the Licensed Program be transferred outside of country boundaries.

If this Agreement should terminate for any reason, Licensee shall certify in writing to CA that all copies or partial copies of the Licensed Program have been either returned to CA or otherwise destroyed and deleted from any computer libraries or storage devices and are no longer in use by Licensee.

ENTIRE AGREEMENT AND MODIFICATIONS

This Agreement, including the reverse side of this Agreement, the Order Form(s) and any other exhibits attached to this Agreement, represents the entire agreement between CA and Licensee with respect to the Licensed Program, and CA and Licensee agree that all other agreements, proposals, purchase orders, representations and other understandings concerning the Licensed Program, whether oral or written, between the parties are superseded in their entirety by this

Agreement. No alteration or modifications of this Agreement will be valid unless made in writing and signed by the parties. No attachment, supplement or exhibit to this Agreement shall be valid unless initialed by an authorized signatory of CA.

(See Next Page For Additional Important Provisions)

COMPUTER ASSOCIATES INTERNATIONAL, INC.

By: _____
(Authorized Signature)

_____
Name of Person Signing

_____
Date

_____
License Agreement No.

LICENSEE

By: _____
(Authorized Signature)

_____
Type or Print Name of Person Signing

_____
Title

_____
Date

LIMITED WARRANTY

CA warrants that it can grant the license described in this Agreement and the Order Form(s) and CA will defend or, at its option, settle any action at law against Licensee based upon a claim that Licensee's use of the Licensed Program in accordance with this Agreement infringes any patent, copyright or other intellectual property right of any third party. CA also represents that the Licensed Program will operate according to the specifications published by CA for the Licensed Program. If it is determined that the Licensed Program does not operate according to such specifications, CA's only responsibility will be to use its best efforts, consistent with industry standards, to cure the defect.

Any warranties made by CA (other than that of non-infringement) will extend and be in effect only for the period that Licensee is entitled to use the Licensed Program and for which Licensee shall have paid the Usage and Maintenance Fee, if applicable. With respect to hardware equipment supplied by CA, CA will, upon request, assign to Licensee any warranties which may be made by the original manufacturer of such hardware equipment.

In the event that Licensee makes any changes or modifications to the Licensed Program, Licensee agrees that such changes and modifications shall be the property of CA, unless CA shall have given its prior written consent to the contrary. Furthermore, any such changes or modifications made by Licensee to a Licensed Program will mean that the foregoing limited warranty of CA with respect to such Licensed Program shall no longer apply, and CA shall have the right to charge Licensee for additional support services at CA's then prevailing service rate, but CA shall have no obligation to provide such services.

WARRANTY AND LIABILITY LIMITATIONS

EXCEPT AS SET FORTH ABOVE, NO OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE BY CA AND CA MAKES NO WARRANTIES WITH RESPECT TO ANY HARDWARE EQUIPMENT WHICH CA MAY SUPPLY TOGETHER WITH THE LICENSED PROGRAM OR FOR THE IMPLEMENTATION THEREOF. IN NO EVENT WILL CA BE LIABLE TO LICENSEE OR ANY OTHER PARTY FOR ANY LOSS, INCLUDING TIME, MONEY, GOODWILL AND CONSEQUENTIAL DAMAGES, WHICH MAY ARISE FROM THE USE, OPERATION OR MODIFICATION OF THE LICENSED PROGRAM.

DISASTER RECOVERY

In the event that Licensee certifies in writing to CA that it has a bona fide disaster recovery plan with respect to the computer software programs used in its operations, Licensee may make one copy of the Licensed Program for archival purposes and use such archival copy on a CPU other than the Designated CPU or at an installation site other than that identified on the Order Form, such other CPU or installation site to be owned or controlled by Licensee. The use of such archival copy shall be limited (a) for the purpose of conducting limited testing of the disaster recovery plan's procedures and effectiveness (which testing shall not exceed one week in any three month period) and (b) during any period subsequent to the occurrence of an actual disaster during which the Licensee cannot operate the Licensed Program on the Designated CPU or at the installation site identified on the Order Form. Licensee agrees to furnish such further documentation with respect to its disaster recovery plan and procedures as CA may request from time to time.

ASSIGNMENT

Licensee may not assign this Agreement, the use of any Licensed Program or its rights and obligations under this Agreement without the prior written consent of CA. CA, however, may assign this Agreement to any third party, provided that such party assumes the obligations of CA under this Agreement. CA may also assign its right to payment under this Agreement or

grant a security interest in this Agreement or such payment right to any third party without requiring that such third party be liable for the obligations of CA under this Agreement.

ESCROW OF SOURCE CODE

CA has deposited a copy of the source code of the Licensed Program with Mendelsohn, Kary, Bell & Natoli, 1633 Broadway, New York, NY 10019. Such source code will be updated with each new release of the Licensed Program which will also be deposited with the escrow agent. Such copies of the source code will be held in escrow and in the event of a final adjudication of CA as bankrupt, Licensee will, upon payment of the duplication cost and other handling charges of the escrow agent, be entitled to obtain a copy of such source code from the escrow agent. Licensee will, however, only use such copy of the source code internally to support the Licensed Program. The escrow agent's only responsibility will be to use its good faith efforts to cause a copy of the source code, in the form as delivered by CA, to be delivered to Licensee at the appropriate time.

TAXES AND DUTIES

The amounts set forth on any Order Form are exclusive of any tariffs, duties or taxes imposed or levied by any government or governmental agency including, without limitation, federal, state and local sales, use, value added and personal property taxes, and Licensee agrees to pay any such tariffs, duties or taxes (other than franchise and income taxes for which CA is responsible) upon presentation of invoices by CA. Any claimed exemption from such tariffs, duties or taxes must be supported by proper documentary evidence delivered to CA.

BREACH AND TERMINATION

If Licensee breaches any term of this Agreement or any Order Form or fails to pay when due any valid invoice rendered by CA, or if the Licensee becomes insolvent or if bankruptcy or receivership proceedings are initiated by or against Licensee, CA shall have the right to terminate this Agreement immediately and, in addition to all other rights of CA, all amounts which would have become due and payable under this Agreement and any Order Form will immediately become due and payable to CA. Any invoice which is unpaid by Licensee when due shall be subject to an interest charge of 2% per month or part thereof plus such late payment charge as CA may reasonably require to cover its additional costs of administration and collection.

ADDENDUM
TO
ORDER FORM
BETWEEN
COMPUTER ASSOCIATES INTERNATIONAL, INC. (“CA”)
AND
_____ (“LICENSEE”)
FOR
_____ (THE “LICENSED PROGRAM (S)”)

This Order Form is amended by adding the following:

New Products. In the event CA develops a new generation or variation of a Licensed Program hereunder (a "New Product") during the period specified on the Order Form (the “Term”) whether such New Product is intended for use with an operating system not yet developed or with a new release of an operating system specified herein, then upon CA's receipt of Licensee's written request and without additional charge, such New Product shall be added to this license for use by Licensee during the Term, on the same basis as applies to such Licensed Program, even if CA then determines to charge a separate license fee for the New Product to CA's other licensees.

COMPUTER ASSOCIATES INTERNATIONAL, INC.	LICENSEE:_____
By:_____ (Authorized Signature)	By:_____ (Authorized Signature)
_____ (Name)	_____ (Name)
_____ (Title)	_____ (Title)
_____ (Date)	_____ (Date)

Computer Associates™

ORDER FORM

Computer Associates International, Inc., One Computer Associates Plaza, Islandia, NY 11749 tel: +1 631 342 6000 fax: +1 631 342 6800

Licensee Name And Address: _____

_____

License Agreement No.: _____ If Tax Exempt, Number: _____ (attach certificate)

Installation/Service Site Location: (If different from above) _____

Installation/Service Site I.D. No.: _____ Licensee P.O. No.: (If Required) _____

Licensee Technical Contact Name: _____ Email: _____ Phone: _____

Licensee Billing Address: (If different from above) _____

Licensee Billing Contact Person: (If different from above) _____ Phone: _____

Licensee Shipping Address: (If different from above) _____

Licensee Shipping Contact Person: _____ Phone: _____

CA Supplement No. To be completed by Sales Accounting	Licensed Program and Use Limitation(s)	Designated CPU(s) or Server(s)				Initial Invoice Amount (Net Of Taxes)
		Manufacturer	Model	Operating System	CPU Serial No. (Mainframe Only)	

Effective Date of this Order: _____ Month Day Year

☐ **O1**: A single payment in the amount of $ for:

☐ **G0**: A single payment in the amount of $

☐ **O2**: Two equal annual payments in the amount of $
☐ **O3**: Three equal annual payments in the amount of $
☐ **P0**: A single payment in the amount of $
☐ **P1**: A single payment in the amount of $
☐ **P2**: Two equal annual payments in the amount of $
☐ **P3**: Three equal annual payments in the amount of $
☐ **H0**: A single payment in the amount of $
☐ **H1**: A single payment in the amount of $
☐ **H2**: Two equal annual payments in the amount of $
☐ **H3**: Three equal annual payments in the amount of $

☐ Upgrade to above Designated Mainframe CPU from:

_____
Mfr. Model Op. Sys. Serial No.

☐ Upgrade to above Designated Server from:

_____
Mfr. Model Op. Sys. Tier

☐ Maintenance Reinstatement through
Month Day Year

☐ Other (attach description)

☐ Change of Pay Option to that specified herein from a Pay Option for the following Licensed Programs:

(See next page for a description of each Pay Option and for additional important provisions.)

Computer Associates International, Inc.

By: _____
(Authorized Signature)

_____
Type or Print Name and Title of Person Signing

_____
Date

Licensee

By: _____
(Authorized Signature)

_____
Type or Print Name and Title of Person Signing

_____
Date

PAY OPTION PLAN DESCRIPTIONS

O1: A one-time fee ("OTF") inclusive of usage and maintenance of the Licensed Program as provided herein for a one-year period. Thereafter, continued usage and maintenance as provided herein will be subject to annual payment of CA's usage and maintenance fee ("UMF") equal to CA's then prevailing OTF, multiplied by CA's then prevailing UMF rate applicable to the Licensed Program.

O2: Two equal annual payments inclusive of usage and maintenance of the Licensed Program as provided herein for a two-year period. Thereafter, continued usage and maintenance as provided herein will be subject to annual payment of CA's then prevailing UMF.

O3: Three equal annual payments inclusive of usage and maintenance of the Licensed Program as provided herein for a three-year period. Thereafter, continued usage and maintenance as provided herein will be subject to annual payment of CA's then prevailing UMF.

P0: An OTF inclusive of usage of the Licensed Program as provided herein for an indefinite period. No maintenance or enhancement services will be provided.

P1: An OTF inclusive of usage of the Licensed Program as provided herein for an indefinite period, as well as maintenance of the Licensed Program for a one-year period. Thereafter, continued usage as provided herein shall not require further payment, but continued maintenance shall be subject to annual payment of a maintenance fee ("MF") equal to CA's then prevailing P0 OTF, multiplied by CA's then prevailing MF rate applicable to the Licensed Program.

P2: Two equal annual payments for usage of the Licensed Program as provided herein for an indefinite period, as well as maintenance of the Licensed Program for a two-year period. Thereafter, continued usage as provided herein shall not require further payment, but continued maintenance shall be subject to annual payment of CA's then prevailing MF.

P3: Three equal annual payments for usage of the Licensed Program as provided herein for an indefinite period, as well as maintenance of the Licensed Program for a three-year period. Thereafter, continued usage as provided herein shall not require further payment, but continued maintenance shall be subject to annual payment of CA's then prevailing MF.

H0: A single payment inclusive of usage and maintenance of the Licensed Program as provided herein for a one-month period. Thereafter, this license will be renewed on the same terms and conditions, but subject to payment of CA's then prevailing H0 license fee.

H1: A single payment inclusive of usage and maintenance of the Licensed Program as provided herein for a one-year period. Thereafter, this license will be renewed on the same terms and conditions, but subject to payment of CA's then prevailing H1 license fee.

H2: Two equal annual payments, inclusive of usage and maintenance of the Licensed Program as provided herein for a two-year period. Thereafter, this license will be renewed on the same terms and conditions, but subject to payment of CA's then prevailing H2 license fee.
H3: Three equal annual payments, inclusive of usage and maintenance of the Licensed Program as provided herein for a three-year period. Thereafter, this license will be renewed on the same terms and conditions, but subject to payment of CA's then prevailing H3 license fee.
G0: A single payment for a limited purpose as described herein without effecting any change in any existing license, except as specifically provided herein.

RENEWALS
All renewals are automatic unless, at least thirty days prior to expiration of the current term, either Licensee or CA gives written notice to the other party of its intention not to renew. If the applicable renewal fee (under an "O" or "P" Pay Option) is not paid, reinstatement shall be subject to a charge equal to 150% of the then prevailing renewal fee, multiplied by the number of whole and partial years since such expiration.

SCHEDULE OF TERMS
Unless otherwise indicated, license fees and renewal fees are specific to the usage and maintenance of the Licensed Program as expressly authorized by CA in writing. The right to use or benefit from the Licensed Program extends to any majority-owned subsidiary of Licensee provided such subsidiary agrees to comply with the terms of the referenced License Agreement and this Order Form. Unless the parties agree otherwise in writing, use of the Licensed Program is restricted to the internal operations of the Licensee and any such subsidiary for the processing of their own data. Any proposed change in any of the foregoing, including use of the Licensed Program following a change of control of Licensee or of Licensee's business, shall be subject to CA's prior written consent and payment of all applicable fees. Licensee shall furnish to CA such documentation and access to its facilities as CA may request from time to time to verify compliance with the provisions hereof. All fees and charges are payable upon Licensee's receipt of invoice. The terms of the license granted hereunder are personal to Licensee and are highly confidential. Licensee shall not disclose any of such terms (including those relating to pricing and authorized use) to any person or entity other than Licensee's employees, auditors, and attorneys who have a need to know such information in connection with their performance of services for Licensee. Any invoice that is unpaid by Licensee when due shall be subject to an interest charge calculated at the highest applicable legal rate. The Licensed Program shall be shipped to Licensee F.O.B. Point of Shipment. Licensee shall observe all relevant import and export laws and regulations, including but not limited to the regulations of the Office of Export Administration of the US Department of Commerce. This agreement shall be governed by and interpreted in accordance with the laws of the State of New York, without regard to its choice of law provisions. Any dispute hereunder shall be determined by a court of competent jurisdiction within the State of New York. All notices, invoices and other communications hereunder shall be delivered to Licensee and CA at their respective addresses set forth in this Order Form, unless changed by similar notice.

UPGRADE
Licensee's use of the Licensed Program may be expanded beyond that authorized herein upon prior written notice to CA and payment of CA's applicable fees. The current expiration date shall still apply after such upgrade. All applicable upgrade fees and adjustments to the license fees and applicable UMF or MF for an upgraded license shall be determined in accordance with CA's then prevailing policy and prices.
INCORPORATED LICENSE AGREEMENT AND ORDER OF PRECEDENCE
The terms and conditions of the License Agreement referenced by this Order Form shall apply to this Order Form. Any conflict among the provisions of this Order Form, an addendum hereto, the License Agreement and/or an addendum to the License Agreement, shall be resolved according to the following order of precedence: (1) addendum to this Order Form; (2) this Order Form; (3) addendum to the License Agreement; (4) the License Agreement.
REFERENCE CLIENT
At CA's request, Licensee will serve as a reference with respect to the Licensed Program and the form of licensing provided for herein by meeting or conferring with at least four (4) CA clients during each year of the initial term of this license, provided that CA gives Licensee reasonable prior notice of each reference request and that each meeting or conference is scheduled during Licensee's normal business hours.

ATTACHMENT TO ORDER FORM

CA Supplement No. To be completed by Sales Accounting	Licensed Program and Use Limitation(s)	Designated CPU(s) or Server(s)				Initial Invoice Amount (Net Of Taxes)
		Manufacturer	Model	Operating System	CPU Serial No. (Mainframe Only)	

Computer Associates

STATEMENT OF WORK

For
<Project Name>

Presented to
<Customer>

on
<SOWDATE>
Site ID: <SITEID>

Computer Associates International, Inc.
One Computer Associates Plaza
Islandia, NY 11749
www.ca.com

Table of Contents

Statement of Work

Project Name: **<Project Name>**

Site ID: **<SITEID>**

Date: **<SOWDATE>**

PSA Number: **<PSA#>**

Introduction
This Statement of Work is for the <**Project Name>** effort for **<Customer>** ("Client"). This Statement of Work, in conjunction with the Letter of Engagement, or the above referenced Professional Services Agreement, comprises the total agreement for the described level of effort. Upon execution of this Statement of Work, Computer Associates International, Inc. ("CA") will provide, for a firm fixed price, the technical services described herein.
Until executed by the Client and received by CA this Statement of Work shall act as a quotation for services whose term will expire thirty (30) days from the date of this Statement of Work. Any extensions or changes to this term must be made in writing by CA.

Scope of Services
Client Information
The following information has been used to build this Statement of Work:

Deliverables

Main Project Location
CA will perform these services primarily at the following address:
INSERT site address of the customer

Fee for Services

The total fees payable for the deliverables defined within this Statement of Work is $x,xxx. This Fee is a Fixed Price, plus expenses.

Payment terms: 20% will be invoiced upon acceptance of this Statement of Work. The remaining 80% will be paid on acceptance of project deliverables. All payments are on a 30-day payment term. In any event, all fees will be payable by INSERT THE FINAL PAYMENT DATE.

This Statement of Work is based upon the information supplied to Computer Associates by <CUSTOMER> and if there is a variation in this information, then the costs associated with the project may have to be recalculated.

Expenses

Client is responsible for all travel and accommodation expenses incurred in the performance of this Statement of Work.

Engagement Provisions

2.1 Exclusions

Unless detailed specifically within this Statement of Work, the scope of this service does not include customizing standard reports, on-line screens, documentation, or the development of additional reports or screens. Nor does the scope of this service include any third-party product installation, the installation of third-party product interfaces, exit coding or interfaces to Client systems and applications.

2.2 Project Charter Workshop

A CA Project Manager will meet with the Client's project team, and any other necessary Client resources to determine all of the requirements for the successful completion of this project. The Project Manager will: confirm Client requirements and expectations; prioritize requirements (mandatory and desirable); define project constraints and exclusions; identify a clear Client project owner, other Client team members and internal Client escalation process; identify CA contacts, including Project Manager, Consulting Manager, Consulting Director, Client Relationship Manager, and the Project Management Office contact; identify resource(s) to receive knowledge transfer; discuss the methodologies, procedures, specifications, standards, measurement criteria, and management systems that will be utilized throughout the project; review the deliverables, milestones, time-scales, and the review cycle; determine project status reporting requirements and frequency; review the current technical architecture; discuss product maintenance considerations; review the Client's testing and verification procedures that will be used to validate the deliverables and milestones; produce a baselined and leveled project schedule with an outlined Project Charter Document; and, discuss the opportunity of becoming a reference site. The following processes will be reviewed for clarification: Organizational Review; Succession of Documents, Change Control; Acceptance of Deliverables; Acceptance Testing; Production System Integration Testing; Knowledge Transfer; Education & Training and Quality Assessment.

2.3 Project Charter Document

From the information obtained in the Workshop described earlier, a Project Charter Document will be produced. This document will reflect the events of the workshop and will describe the total scope of the project including any changes and amendments agreed to for each stage (refer to Change Control Section for additional details). The project will not continue to the next stage until both parties agree upon the final version of this document. CA reserves the right to levy further charges for such additional work or requirements that are identified at these times.

2.4 Organizational Review

As a part of the Project Charter, the CA Project Manager will arrange meetings with key personnel within the Client's organization to undertake an organizational review. The purpose of this review is the following: to understand the Client's production change control process for the implementation of new software into the Client's production platforms; to understand the process of operational support within the Client's organization from Helpdesk to first and second line support functions; to understand the Client's current operational support procedures; to review and advise on the skill sets required within the Client's personnel to support the implementation; and, to advise on a structure to support the project.

2.5 Deliverable Acceptance

Both the Client and CA will mutually agree upon acceptance of deliverables, and such agreement shall not be unreasonably withheld. The Client, prior to the commencement of work on any subsequent stage, must accept the deliverables for the prior stage in writing. Criteria and timelines for acceptance will be defined during the initial stage of the project. In the initial stage of the project, the Client and CA will complete a deliverable acceptance schedule. This schedule will become the basis for <Customer>'s review and acceptance period.

2.6 Acceptance Testing

As part of CA's standard project delivery process, CA will verify that the delivered solution meets the set of Acceptance Test Criteria. These criteria will have been defined and agreed upon during the Project Charter Workshop. There may be a set of Acceptance Testing Criteria for each relevant stage of the project. At this stage all the acceptance testing will have been completed. These acceptance tests will have been accepted and duly signed off as such by the Client.

2.7 Production System Integration Testing

A set of production system integration tests, identified and agreed upon in the Project Charter Workshop, will be performed, where appropriate, to verify that the product is correctly functioning in production. These tests will be limited to functionality and not performance issues.

2.8 Project Completion

When all stages/steps of the project are complete and the project has met its requirements in line with the project documentation, then a final Project Closeout Meeting will occur. In this meeting the project will be examined for the solution it delivered. The results of this meeting will be documented.

2.9 Prerequisites

It is agreed that the Client will make the following available to CA during the term of the engagement. Failure to meet any prerequisite could result in delays in meeting the project schedule and could result in additional charges. In order to be successful in our delivery, we require the following: availability of personnel for interviews; availability of personnel who may be part of the project team; availability of identified hardware/software; timely turnaround time for issue resolution, review, acceptance, etc; availability of appropriate office space and standard office resources, including adequate workstations, logins and passwords to accomplish appropriate tasks, etc; access to information concerning the Client's systems and applications (this information must completely and accurately reflect the procedures or conditions currently in effect); and, all Computer Associates and 3rd party software installed, or to be installed must be properly licensed for the proposed site locations. In addition, all prerequisite supporting system hardware and software resources must be installed at required configuration and release levels prior to the implementation stage of this service engagement. Additionally, one Client staff member is required to be the CA principal Client contact. This person will designate the individuals for Knowledge Transfer. Client assumes responsibility for transcribing, publishing and distributing all new and revised policies, standards, forms and procedures that are added or changed due to the implementation described in this document.

2.10 Project Start Date

The project is estimated to start on a mutually agreed upon date, usually within two weeks after Client has notified CA that the prerequisites have been satisfied.

2.11 Knowledge Transfer

"Knowledge Transfer", means the act of passing technical system and product related knowledge from the CA project team to those of the Client's staff who require such knowledge. To achieve this, the Client's staff must be available at all agreed upon times throughout the implementation project to work with the CA Consultant(s) to acquire this knowledge. It should be noted that possibly the largest cause of failure of such projects is directly related to the fact that Client staff is not made available with sufficient focus as to allow them to acquire this knowledge. This process is an essential element of preserving the investment made during implementation. It imparts the ability to enhance and maintain the system. It should be noted that this is not intended to replace formal product training, where appropriate, which must occur prior to the completion of the project as defined in this Statement of Work, (as defined in the Project Charter), to allow maximum benefit from the knowledge transfer.

2.12 Education & Training

It is strongly recommended that the individuals who will be utilizing and administering CA solutions attend the suggested education. Additional information about educational offerings, including Rapid Learning Packages, not included in this document, can be found in the CA Education Catalog, the Recommended Learning Paths Catalog, or on the Computer Associates Web site <http://www.ca.com>. An Education Representative can be reached at 1-800-237-9273 and is available to answer any questions you may have about CA Education.

2.13 Quality Assessment

As part of CA's project methodology, CA may conduct a quality assurance review of the project. The quality assurance professionals will not be part of the project team but will review the status of the project with the Client and the CA team and will then issue a Quality Assurance Report to the Client and the CA Project Manager. The CA Project Manager will then respond in writing to the quality assurance professionals and the Client to provide necessary feedback to the Client concerning the Quality Assurance Report.

2.14 Readiness Assessment

Before the conclusion of this engagement, the CA Project Manager will issue a Readiness Assessment Report to the Client, which will recommend the work effort needed to sustain the implementation successfully.

2.15 Maintenance & Support Services

In the event that the Client is a licensee of CA software requiring routine support and maintenance services, the services described as part of this Statement of Work supporting implementation of such software shall not address, and shall not be interpreted to include, any of such support and maintenance services. CA routinely provides such support & maintenance as part of its software warranty under the License Agreement. Should the Client request that CA provide on-site or other services as part of support and maintenance, CA's agreement to provide such on-site services shall depend upon, and only be made available to the Client under, a separate Statement of Work. This will be for additional payment based upon the description of the services to be performed.

2.16 Succession of Documents

As a part of this engagement the Client agrees to the succession of documents. That is, as each stage is completed, the stage documents proceeding are succeeded by the current stage documents. The previous stage documents are valid only as a historical reference.

2.17 Escalation Procedures

If, in any case, a problem (issue) is discovered with CA software, the CA Project Manager will report this issue as soon as possible by written means to the Client's designated contact. In this report there is also a description of the impact of this issue regarding the project. A member of CA's implementation team or the Client will open a support call at the CA support organization. It should be noted that the Client is the owner of this issue. The issue number from CA Support will also be communicated to the Client's designated contact person. The CA Consultant(s) can work on the issue on behalf of the Client. This means that one or more project activities will be delayed. This may result in additional charges to the Client for this project. On the other hand, the Client can work on the issue and supply CA support with all necessary information and data and do the work at the request of CA support. The Consultant(s) will continue with their normal (parallel) project activities or the project will be stopped and resumed following the resolution of the problem.

2.18 Change Control

Any changes to the project scope will be administered through the project change control procedure as described below. When a change to the project is identified, the CA Project Manager will complete a Project Change Control Form. The Client and CA will finalize the format of this form during the initial stage of this project. When completed, this form will describe CA's understanding of the requested change, impact on the current engagement, and the estimated resources and time required to implement the Client's request. The CA Project Manager will submit the completed form to the Client's Project Manager for review and appropriate approval. Estimates provided to the Client will remain valid for a period of five (5) business days from the date of submission. If the Client does not approve the change estimate within the five (5) business days, and Computer Associates has not extended the period of validity in writing, the change estimate will automatically expire. Following receipt of the Client's written approval, the CA team will begin work on the requested change according to the agreed upon schedule. Due to the complexity of some project change requests, the Client may be charged for the time required to scope and estimate the requested change. The CA Project Manager will advise the Client of the estimate if a charge will apply.

2.19 Fee for Services

The fees have been calculated based on a standard 40-hour workweek, Monday to Friday, 8:00am to 5:00pm. Should it be necessary for work to be performed outside these hours then further charges may be incurred. Client agrees that they may be liable to pay CA for services or the cost of any re-work where CA is delayed or prevented from providing services because of a failure of Client to meet mutually agreed upon obligations. CA agrees to use reasonable efforts to re-deploy personnel to mitigate any such amount payable by Client to CA.

2.20 Express Delivery™

In connection with CA's delivery of this Work Product and CA's performance under this Statement of Work, the Client acknowledges that CA may utilize Express Delivery™. This is CA's proprietary tool, process and methodology consisting of, but not limited to, CA software, documentation and other materials, which are proprietary to CA and CA's sole property. The Client hereby expressly authorizes CA to utilize Express Delivery™ in connection with the delivery of the Work Product hereunder and, when necessary, load and install certain software comprising Express Delivery™ on the Client's CPUs in order to permit CA to perform its obligations. The Client and its employees will keep Express Delivery™ strictly confidential, and will neither use Express Delivery™ for anything other than the delivery of the Work Product, nor market, copy, disclose or otherwise distribute Express Delivery™. The Client will not remove or destroy any proprietary markings of CA. At the conclusion of this Statement of Work, the Client hereby authorizes CA, and CA shall be entitled, to remove all components of Express Delivery™ from the Client's CPUs. The Client shall cooperate with CA in such removal efforts by furnishing CA with certification that all such components of Express Delivery™ have been deleted from Client's systems. The provisions set forth in this section shall survive the termination of this Statement of Work for any reason.

2.21 Nondisclosure Statement

This Statement of Work includes data that shall not be disclosed outside of Client and shall not be duplicated, used or disclosed, in whole or in part, for any purpose other than to evaluate this Statement of Work. If however, a contract is awarded to this offer or as a result of, in connection with, the submission of this data, Client shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit Client's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are annotated herein.

2.22 Quality Certification

On Friday 17th November 2000, Quality Assurance Services announced that CA has achieved global certification to ISO 9002:1994.

Statement of Work Acceptance

Project Name: <Project Name>

PSA Number: <PSA#>

By signing below <CUSTOMER> acknowledges and accepts the contents and provisions of this Statement of Work dated <SOWDATE>, offered by Computer Associates International, Inc., for services to be performed for <CUSTOMER>.

Accepted by:	***Accepted by:***
<Customer>	Computer Associates International, Inc.
_____	_____
Signature	***Signature***
_____	_____
Name (please print)	***Name (please print)***
_____	_____
Title	***Title***
_____	_____
Date	***Date***

Billing Information
Invoices are to be mailed to the following address – to be completed by Client:

Company Name: _____

Address: _____

City: _____

State: _____ ***Zip:*** _____

Attention: _____

Phone #: _____ ***E-Mail Address:*** _____

Special Billing Notes: _____

_____

Professional Services Agreement

This Professional Services Agreement between Enter Legal Client Name ("Client") located at Enter Client Address and Computer Associates International, Inc. ("CA") sets forth the terms and conditions pursuant to which CA shall provide certain professional services and other materials for the benefit of Client.

SCOPE OF SERVICES

CA shall provide certain consulting services to Client as set forth in the accompanying exhibit accepted in writing by the parties ("Statement of Work"). All software code, documentation, materials, and other proprietary information which may be developed in the course of performing or arising from the Statement of Work or otherwise provided by CA in connection with its performance under a Statement of Work (the "Work Product") shall be governed by the terms of this Agreement. Each Statement of Work shall be deemed to constitute a separate work project under this Agreement. No modification may be made to any Statement of Work without the written consent of the parties. To permit the services to be performed in accordance with the Statement of Work, Client shall timely perform all of its obligations set forth herein and in the Statement of Work, including, but not limited to, providing CA with access to all hardware, software, Client employees and facilities, and making reasonable efforts to facilitate completion of the Statement of Work.

USE OF WORK PRODUCT

Upon completion of the Statement of Work, Client shall be entitled to use the Work Product only for the internal operations of Client and for the processing of its own data at the installation site set forth in the Statement of Work and subject to the terms and conditions of this Agreement.

TITLE AND CONFIDENTIALITY

Except as specifically provided in a Statement of Work, CA retains all right, title and interest in and to the Work Product. The Work Product shall not constitute "work made for hire" as that term is defined in Section 101 of the Copyright Act. In addition, Client and its employees will keep the Work Product strictly confidential, and will neither use the Work Product for other than its internal operations, nor market, copy, disclose or otherwise distribute the Work Product to anyone other than its authorized employees. Client will not remove or destroy any proprietary markings of CA. In the event that Client makes any changes or modifications to the Work Product, Client agrees that such changes and modifications shall be the property of CA, unless CA shall have given its prior written consent to the contrary. The provisions set forth in this section shall survive the termination of this Agreement for any reason.

LIMITED WARRANTY

CA warrants that it will utilize its best efforts to perform the services set forth in the Statement of Work with employees who possess the appropriate skills to perform in accordance with the Statement of Work. CA further warrants that CA will defend or, at its option, settle any action at

law against Client based upon a claim that Client's use of the Work Product in accordance with this Agreement infringes any patent, copyright or other intellectual property right of any third party, if notified promptly in writing of such claim and given authority, information and assistance (at Client's expense) to defend or settle any suit or proceeding. In case any portion of the Work Product is held in such suit or proceeding to constitute an infringement and its use is enjoined, CA shall, at its own expense and at its option, either (a) procure for Client the right to continue use, (b) replace the Work Product with a non-infringing version of comparable functionality, or (c) issue a pro rata refund based upon the usage of the Work Product by Client. This section sets forth CA's entire liability for infringement of any third party's intellectual property rights. CA further warrants that the Work Product will comply with the specifications set forth in the applicable Statement of Work during the limited period provided in the Statement of Work, or for thirty (30) days following delivery of the Work Product. CA will use it best efforts, consistent with industry standards, to cure any defect or nonconformity with such specifications during such period.

WARRANTY AND LIABILITY LIMITATIONS

EXCEPT AS SET FORTH ABOVE, NO OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE BY CA. IN NO EVENT WILL CA BE LIABLE TO CLIENT OR ANY OTHER PARTY FOR ANY LOSS, INCLUDING TIME, MONEY, GOODWILL, LOST PROFITS AND CONSEQUENTIAL DAMAGES BASED ON CONTRACT, TORT OR OTHER LEGAL THEORY, WHICH MAY ARISE HEREUNDER OR FROM THE USE, OPERATION OR MODIFICATION OF THE WORK PRODUCT. THE MAXIMUM LIABILITY OF CA HEREUNDER SHALL NOT EXCEED THE AMOUNT ACTUALLY PAID BY CLIENT UNDER THE APPLICABLE TASK CONTAINED IN THE STATEMENT OF WORK.

PAYMENT

Client agrees to pay to CA the fees and charges set forth in the Statement of Work, in addition to any associated tariffs, duties or taxes (other than income taxes) imposed or levied by any government agency. Client agrees that it shall be responsible to reimburse CA for all travel and out-of-pocket expenses incurred by CA in providing the services, unless otherwise provided in the Statement of Work.

BREACH AND TERMINATION

If Client breaches any term of this Agreement or of any Statement of Work, or fails to pay any valid invoice rendered by CA, CA shall have the right to terminate this Agreement immediately as well as all Statements of Work then in process and, in addition to all other rights of CA, all amounts which would have become due and payable under this Agreement including any Statement of Work will immediately become due and payable to CA. Any invoice which is unpaid by Client when due shall be subject to an interest charge of 2% per month or part thereof plus such late payment charge as CA may reasonably require to cover its additional costs of administration and collection. Client shall be entitled to terminate any portion of any Statement of Work by giving CA thirty (30) days prior written notice and by paying to CA all invoices representing services performed through the proposed date of termination.

ASSIGNMENT

Client may not assign, transfer, sell, or encumber this Agreement, the use of, or information contained in, any Work Product, or its rights and obligations under this Agreement without the prior written consent of CA. CA, however, may assign this Agreement or the obligations

contained herein to any third party, provided that such third party assumes the obligations of CA under this Agreement.

INDEPENDENT CONTRACTOR

CA shall perform the services set forth in the Statement of Work as an independent contractor and neither CA nor its employees shall be deemed to be employees of Client. CA shall determine in its sole discretion which of its employees or subcontractors shall be assigned to perform any consulting services for Client and may reassign any employee or subcontractor at any time. Nothing in this Agreement is intended to establish a partnership, joint venture or agency relationship between the parties.

NON-SOLICITATION OF CA EMPLOYEES

Client agrees that it will not, without the prior written consent of CA, solicit or hire any CA employee, or induce such employee to leave CA's employment, directly or indirectly, for a period of twelve (12) months after the most recent time such employee has performed any services for Client.

NOTICES

All notices pursuant to this Agreement shall be sent by certified mail, postage prepaid, and shall not be deemed to have been given until received by the other party.

ENTIRE AGREEMENT

This Agreement, together with the applicable Statement of Work, represents the entire agreement between CA and Client with respect to the Work Product and the services, obligations and responsibilities to be performed by the parties hereunder. CA and Client agree that all other agreements, proposals, purchase orders, representations and other understandings concerning the subject matter of this Agreement, whether oral or written, between the parties are superseded in their entirety by this Agreement. No alterations or modifications of this Agreement will be valid unless made in writing and signed by the parties. No attachment, amendment, supplements or exhibit to this Agreement shall be valid unless initialed by an authorized signatory of CA and Client.

Accepted by:
Enter Legal Client Name

_____
Signature

_____
Name (please print)

_____
Title

_____
Date

Accepted by:
Computer Associates International, Inc.

_____
Signature

_____
Name (please print)

_____
Title

_____
Date

_____
Professional Agreement Number

Appendix C. Product Overview

Advantage Data Transformer

Advantage Data Transformer is a powerful data trans-formation, replication and integration tool that features a flexible, easy-to-use and comprehensive application development environment. Its rich programming language enables organizations to easily define both simple and complex data movement tasks, join data from multiple sources, cleanse data, synthesize new data and synchronize two or more databases on mixed platforms**.**

Turning Data into Valuable Information
In the rapidly evolving web-enabled marketplace, data is among an organization's most valuable assets. eBusiness success demands access to data assets and the ability to quickly and seamlessly distribute data throughout the enterprise. Organizations must extract, refine, manipulate, integrate and distribute data in formats suitable for strategic decision-making. This poses a unique challenge in heterogeneous environments, where data is housed on disparate platforms in any number of different formats.

Leverage Critical Data Assets
Advantage Data Transformer delivers a comprehensive application development tool that provides bi-directional data transformation and integration between heterogeneous databases, simplifying database connectivity and application development. This powerful solution enables access to all types of internal and external structured data for consolidation and transformation into valuable information assets. Advantage Data Transformer provides the following unique benefits:

- **Fast, low-cost development of data transformation applications** by effectively managing data movement, downsizing, upsizing and synchronization. The easy-to-use BASIC-like scripting language enables both simple and complex manipulation and transformation of data. All the programming complexities of extracting, transforming and loading data from disparate sources and targets are hidden —there is no need to learn database-specific **Streamlined application development and maintenance** by enabling code reuse and process standardization. Developers can concentrate on the transformation process rather than environmental database and platform nuances.
- **Seamless extraction and integration of data** from a variety of relational and non-relational sources, including ERP systems and Lotus Notes. Organizations can migrate data to new file systems and merge data from across the enterprise into meaningful information.

Its scalable architecture supports multi-user development environments while providing multitasking capabilities and near realtime response.

Distinctive Features
- **Multiple Source and Target Support.** Advantage Data Transformer seamlessly extracts and integrates data from Oracle, Sybase, Microsoft SQL Server, Informix, Advantage ™ Ingres ® Enterprise Relational Database, UDB, DB2 MVS, AS/400, Lotus Notes, DBASE, Microsoft ODBC (Access, Excel, Text), Flat files (ASCII and EBCDIC) and Generic ODBC.
- **Comprehensive, Built-in Scripting Language.** Precisely con-trolled, complex data calculations and transformations are defined using a set of consistent, easy-to-learn commands, regardless of database system or file type.

- **Automated Data Type Conversions.** Advantage Data Transformer provides automatic conversion of data types between disparate databases.
- **Native Database Connectivity.** Built-in interfaces take advantage of database-specific commands to significantly improve extract-and-load performance and enable complex data manipulation, such as database triggering or procedure storage.
- **Reusable Code.** An extensible library of centrally stored, reusable functions enables organizations to create repeatable transformations that can be encapsulated into reusable, callable scripts.
- **Robust Error-Handling.** Error recognition, logging and notification handling are integrated into the Advantage Data Transformer development environment.
- **Flexible Scheduling.** A built-in scheduler enables definition of dependencies between data movement applications or trigger processing based on external or system events. Third-party schedulers are fully supported.
- **Open Architecture.** A server-based architecture supports virtually all network protocols, while source and target databases can reside on any available platform.
- **Scalable Architecture.** Additional Advantage Data Transformer Servers can be easily added in parallel and controlled by centrally stored scripts, connectivity parameters and scheduling information.

Advantage: Managing eBusiness Information
Advantage delivers leading application development, enterprise reporting and industrial-strength databases, including the services necessary to rapidly integrate applications, databases and business partner systems via powerful XML, transport and messaging services.

Our application development, deployment and integration tools are integrated and open-standards-based covering platforms from mainframes to wireless devices. Along with Advantage, CA offers Jasmine ®, our superior brand of object-oriented solutions. Jasmine provides an object database for efficient storage and management of complex content such as XML documents and multimedia, business application objects and the complex interrelationships between them.

CA Services ™ and CA Education:
Maximizing the Value of CA Technology
CA also offers an extensive range of services to help an organization accelerate a project's successful completion and increase ROI. For more information, visit **ca.com/service**s. CA Education helps everyone on an implementation team take full advantage of our products' advanced capabilities. Find out more at **ca.com/educatio**n.

Supported Environments
Source and Target Databases:
• Oracle
• Sybase
• Microsoft SQL Server
• Informix
• Advantage Ingres Enterprise Relational Database
• DB2 UDB
• DB2 MVS
• AS/400
• Lotus Notes
• DBASE
• Microsoft ODBC (Access, Excel, Text)

• Flat files (ASCII and EBCDIC)
• Generic ODBC

Operating Systems:

• Windows NT/2000

AllFusion ERwin Data Modeler

AllFusion ERwin Data Modeler is a database design tool that helps users design, generate, and maintain high-quality, high-performance database applications. AllFusion ERwin Data Modeler allows the user to visualize the proper structure, key elements, and optimized design of their database—from a logical model of information requirements and business rules defining the database—to a physical model optimized for the specific characteristics of the target database.

AllFusion ERwin Data Modeler automatically generates tables and thousands of lines of stored procedure and trigger code for leading databases. Its "complete-compare" technology allows iterative development, so models are always synchronized with the user's database. By integrating with leading development environments, AllFusion ERwin Data Modeler also speeds the creation of data-centric applications.

System Requirements/Platform Support

- Windows 95, 98, 2000, or NT 4.0

Supported Databases

Ingres II
CA Clipper
DB2 dBase
Microsoft SQL Server
Oracle
Sybase
FoxPro
HiRDB
INFORMIX
InterBase
Microsoft Access
Teradata
ODBC 2.0, 3.0
Paradox RdB
Red Brick
Warehouse SAS
SQL Anywhere
SQL Base

Benefits of Erwin:

1. Increase Productivity.

AllFusion ERwin Data Modeler 's easy-to-use, graphical environment simplifies database design and automates many time-consuming tasks.

2. Communicate More Effectively.

AllFusion ERwin Data Modeler enables DBAs and developers to share and reuse models, and to represent the organization's large and complex data assets in an easy-to-understand, easy-to-maintain format.

3. Respond Faster to Evolving Business Needs.

By understanding the impact of change on the organization's information assets and allowing them to quickly implement changes.

4. Design Layer Architecture.
AllFusion ERwin Data Modeler provides the flexibility to generate the data model that meets the organization's needs. Supporting separate Logical and Physical Models, along with the traditional AllFusion ERwin Data Modeler combined Logical/Physical Model; AllFusion ERwin Data Modeler maintains knowledge of the relationships and history of the complete design and allows the user to quickly resolve the impact of changes from one layer to the next.

5. Transform Technology.
Business constraints dictate the need for ongoing change to database applications to meet the performance requirements of today's eBusiness applications. AllFusion ERwin Data Modeler allows the implementation of these types of changes, while maintaining the integrity of the original design.

6. Define Standards.
AllFusion ERwin Data Modeler supports the definition and maintenance of standards through the Domain Dictionary, Naming Standards Editor, and the Datatype Standards Editor.

7. Manage Large Models.
AllFusion ERwin Data Modeler helps manage large enterprise models by using Subject Areas, and Stored Displays. Subject Areas provide a focused view for individual modelers, dividing model into smaller, manageable subsets. Stored Displays offer multiple graphical views of the model facilitating information exchange between specialized groups of users.

8. Complete Compare.
This technology automates model and database synchronization. First, it compares the model with the database, and displays the differences. Then the user can select which differences to move into the model, and which to generate into the database. If the model changes move into the database, AllFusion ERwin Data Modeler automatically generates a database alter script.

9. Generate Database Designs.
AllFusion ERwin Data Modeler includes optimized referential integrity trigger templates, and a rich cross-database macro language, allowing customization of triggers and stored procedures. From the model's physical design, full definitions of the following are generated, as appropriate for the target database: databases/tablespaces, tables and views; columns with defaults and domain constraints; and more.

10. Design Data Warehouses and Data Marts.
The performance, usability, and value of a data warehouse is determined by its underlying design. AllFusion ERwin Data Modeler provides modeling techniques specific to data modeling, such as Star Schema and Snowflake dimensional modeling. This ensures that the data warehouse is optimized for the user's performance and analysis needs. AllFusion ERwin Data Modeler also captures a rich set of information about the warehouse, including data sources, transformation logic, and data management rules.

CleverPath Reporter

CleverPath Reporter provides a scalable, enterprise-class solution that enables both novice and expert users to easily create and automatically distribute customized reports. This high-performance reporting solution allows organizations to draw on data from a diverse set of distributed databases and platforms for a complete, accurate view of critical information. Integration with CleverPath Portal allows users to leverage report content along with other information resources and applications, improving information sharing and promoting collaboration.

CleverPath Reporter is a scalable, multi-tier, distributed enterprise reporting solution. While reports are designed leveraging the power of the desktop, report processing on the server-tier efficiently handles complex calculations, formatting, filtering and sorting. Integration with CleverPath Portal allows users to leverage report content with other information and applications, promoting collaboration and enterprise knowledge sharing.

Product highlights include:

- Delivers Effective Reports to Decision Makers – Data is pulled together from various platforms and database sources to be manipulated within a comprehensive report development and execution environment. Sophisticated reports are provided for enterprise deployment in popular information formats.
- Directly Supports the Business Process – Simple wizard interface and comprehensive developer interface allowing both IT and business users to extend the data asset as a polished information asset to be delivered to the enterprise.
- Scalable Multi-tier Architecture – A multi-tier architecture optimizes system performance by distributing information processing in three tiers - report design on the client, data manipulation on the database server, and execution on an application server. This multi-tier architecture leverages the investment in the RDBMS data asset, the power of the desktop and the power of server based processing.
- CleverPath Portal Integration – CleverPath Portal serves as the eBusiness Workplace.
- Users can categorize and publish reports to CleverPath Portal promoting collaboration, knowledge retention, and effective distribution.
- Wizard-driven Interface – Support faster, easier creation of tabular reports and complex cross-tabular matrices to analyze the data from unlimited perspectives.
- Built-in Scheduler – Reports can be scheduled for automatic execution, conversion and distribution via e-mail, network or web.
- Support for Multiple Databases – CleverPath Reporter supports major RDBMS data assets, including DB2 UDB, DB2 for OS/390, DB2/400, Informix, Microsoft SQL Server, Oracle, and Sybase.

Today, most organizations maintain information in multiple types of databases, which are often be scattered across business units. Knowledge workers need to obtain data from these disparate sources - synthesize it into a report or convert it for analysis by other tools - then distribute the results via e-mail, corporate networks, or the Internet. Establishing this smooth flow of data typically represents a major infrastructure challenge for the organization. CleverPath Reporter empowers users to create ad hoc and production reports ranging from simple to complex using comprehensive wizards that support any level of user. Business users can view, publish, or run any report from a standard Web browser. In addition, they can design a presentation-quality report on a client and run it on a server — retaining all formatting attributes and conversion capabilities. This solution also allows users to link data from multiple queries in a single eBusiness view and connect data from multiple diverse databases on both enterprise or client server platforms.

CleverPath PORTAL

CleverPath Portal (formerly known as Jasmine Portal) has been installed at customer sites for more than 4 years. There are currently over 1,000 client sites worldwide using the CleverPath Portal; over 750 of these sites are in the United States. The portal is being used across many industries with a wide variety of usage, including education agencies and systems, federal, state and local government agencies, commercial and retail enterprises, insurance, healthcare and finance. Sales of CA's CleverPath Portal have surpassed the annual revenues of most portal vendors in last quarter alone; CA expects this explosive growth to continue due to very high rankings from both MetaSpex and Gartner.

CA's CleverPath family includes unified Portal and Business Intelligence solutions that deliver unique portal, query, online analytical analysis, reporting, EIS application development, predictive analysis and visualization capabilities. Our CleverPath Portal presents information in a personalized environment, providing just what you need, when you need it, in a format suited to your individual preferences. Our Reporting and Analysis solutions enable you to effectively leverage your information assets into actionable knowledge with reporting and OLAP solutions.

CleverPath Portal has become an integral part of Computer Associates' product suites: our portal is used not only in the business intelligence tools described here, but also internally for our own intranet, in our Unicenter Enterprise Management tools, eTrust Security tools, BrightStor Storage Management tools, and AllFusion Application Life Cycle Management tools.

CA's CleverPath Portal was the top-selling Enterprise Information Portal software in 2000 according to market research report from IDC published in August 2001. The report, entitled "Worldwide Enterprise Information Portal Software Market Forecast and Analysis, 2000–2005," found that CA's global revenues from CleverPath (aka Jasmine) Portal software licenses and maintenance represented over 16% of the small and emerging worldwide EIP market.

Delphi Group, which conducted an in-depth evaluation of the CleverPath Portal tool, including in its review a number of case studies, states, "Most notably, the benefits that Delphi identified were most closely related to:

Improved information access, search and retrieval time.

Increased access to stakeholder-specific information.

Decreased time to market.

Increased customer retention.

Decreased training and user-adoption times.

Decreased paper and distribution costs.

These and other industry evaluations and reports on CA's CleverPath Portal technology are available at http://www3.ca.com/Solutions/CollateralList.asp?CT=2&ID=262 and at http://www3.ca.com/Solutions/CollateralList.asp?CT=63&ID=262.

Features

The CleverPath Portal is a secure, scalable advanced enterprise information portal providing a personalized, consolidated view of information, applications, and Web-enabled content. Maturing from its original utilization, the Portal has become a very general Web-based framework for creating, delivering, and consuming all forms of Web Content – from static content to dynamic interactive applications.

CleverPath Portal is designed with maximum versatility in mind. When many people think of portals, they are actually thinking of two separate parts: the content management piece and the web-based user interface. The CleverPath Portal offers users the best of both worlds in one product—a user-customizable, web-based interface with native content management capabilities combined with a powerful search engine and familiar Unix-style permissions. The blending of these two approaches, along with the Open-API (Application Program Interface), allows users to customize, manage, and integrate almost any application they choose with the CleverPath Portal.

CleverPath Portal uses its own repository to store all user, workgroup, and content. As a result, it is able to integrate with virtually any system. All access is determined using workgroup permissions. Users are able to view and customize only those areas that they are permitted. The server is 100% Java for maximum portability and hardware independence. Heavy use of cached, pre-generated pages maximizes the number of users and components supported per server. Multiple servers can be used as front ends with a common back end database to enhance performance.

CleverPath Portal 3.5 includes:

Support for multiple search engine vendors.

Support for indexing web sites (spidering) and automatically categorizing content using third-party tools. (Spidering and categorization require separate add-on modules from CA.)

Integrated Windows domain authentication.

Technical and API documentation to allow developing and customizing the Portal.

Support for on-the-fly lookup of user profiles from LDAP and Active Directory when a user logs in. LDAP support has been improved to provide greater flexibility for import and configuration.

Workplaces deployed to groups that can be reset for all users in the Portal, either preserving or replacing each user's existing workplaces.

Contextual and searchable online help.

Discussions that are hierarchical and searchable.

Support for Sybase 12 database.

Support for wireless WAP-enabled devices without third party software.

Portal "Getting Started" mode, with default content and workplace configuration preset.

Directories with a large volume of content that can be paged, showing only a fixed number of documents at a time.

General performance improvements.

Content Acquisition

CleverPath Portal ships with an OEM version of Autonomy as its embedded search engine. The Portal also supports the Verity Search Engine (Verity Information Server v3.7). The Portal also has been configured to work with the Convera search engine. The embedded Autonomy search engine indexes content published within the portal for over 100 file types. The Portal architecture allows relatively easy integration of other search solutions without limitations. Some of the most common formats include all Microsoft Office file types (doc, xls, ppt, etc), Adobe Acrobat (pdf), text, HTML, etc.

The CleverPath Portal user can search on keywords, title, descriptions, author, or content within the published documents. Administrators can define, set up, and limit what is searched via the administrative functions and the User's profile. Advanced search capabilities, such as Spiders and Crawlers, can be integrated with and accessed through the Portal, through the integration of 3rd Party Search Engines with these capabilities, such as inXight's Search Engine, Verity's K2 Search Engine, and others.

AUTONOMY UPDATE™

Autonomy Update™ interface with Categorizer option, recommended (but not required) as an upgrade to the embedded Autonomy OEM search engine currently included in CleverPath Portal, will provide additional spidering and categorization capabilities.

Autonomy Update™ acts as a user interface to the Autonomy Dynamic Reasoning Engine™ to allow users to create user-configurable persistent Agents, which will return results based on their training. Autonomy Update™ also stores individual user profiles based on the documents viewed by a particular user. Documents that match these conceptually stored profiles can then be viewed.

Features of the Autonomy Update™ tool include:

Simple interface for managing Agents

Natural language initial training can be used

Point and click Agent retraining process

Built-in automatic display of related documents

Switchable summaries and extracts

Flexible HTML templates that allow easy customization to fit with existing web interfaces

The Autonomy Update™ is built from a number of modules, allowing systems to be tailored to individual needs:

Web Spider (Content Aggregation)

Simultaneous retrieval of multiple remote/local web pages/intranet sites

Conditional retrieval based on date ranges and configurable date formats

Conditional retrieval based on configurable inclusive and exclusive wild card lists, optionally checked in the URL, header and body

Efficient bandwidth usage

Optional 'politeness' delay between retrievals / retrieval rate

HTTP authentication, HTML forms, login, and HTML cookie authentication supported

Meta tags for import / index processes

Insertion of original reference to allow viewing of retrieved pages

Support for proxy servers and firewalls

Support for SSL

Hyperlink and cross-referencing

Automatic summarization of content

Identification of related documents and references through hyperlink; links are inserted each time a document is retrieved

Automatic display of related documents

Personalization (Agent Management)

Creation / modification / deletion of users and user Agents

Persistent storage of user information, Agent information, training and retraining in encrypted server files

Agents retrainable from any retrieved documents or by example

Full administration capabilities per user and per Agent

Administrator facility to share pre-trained Agents with users

Community

Querying for similar users and Agents

User and administrator queriable profile server based upon implicit or explicit Agent creation

Reporting and analysis tools for interest clustering

User Profiling

Automatic creation of profiles based on user navigation and content read

Resulting profiles form part of user's Agents for community and alerting purposes

Automatic creation of profiles based on user interests

Querying of profiles against other databases for recommendation purposes

Profiles encrypted at the server

Mailer

Automatic scheduled e-mail of user Agent query results

Efficient batch operation for large user base

Configurable e-mail presentation

Administration

Remote browser based configuration

User management using browser

Agent analysis through browser

AUTONOMY CATEGORIZER (optional)

The Categorizer module option automatically categorizes and tags documents. All that is required is to identify examples of documents within specified categories. Autonomy Categorizer will determine how and where new documents will best fit, and then categorize them accordingly. All of this is done automatically and in real time. Users can navigate through the portal's hierarchical category structure, viewing results of particular interest.

Content Publication

There are several ways to publish documents to CleverPath Portal. One way is to actually publish the document to the Portal repository or to simply publish a link to where the content resides, such as an outside file structure on another server. Only users with the authority to

publish content to a workgroup or public library will have the ability to add, change and delete content. All users can publish content to their personal area. Only content that resides in the portal repository will be indexed. Indexing happens as soon as content is published to the repository.

Sample content is included with CleverPath Portal 3.5. If desired, the samples can be manually added to the Portal, allowing Portal Administrators to customize the location of the sample content. This also allows partners or internal groups who customize the Portal to include other content instead of the samples provided by CA.

All users who have publishing authority have the ability to publish to a library or channel. Users can be set up to belong to a workgroup or multiple workgroups. Users can be given authority to add, create, edit and delete content at multiple levels and within workgroups. This allows the capability for managing the workflow process for publishing content. Users can also publish links to documents that exist in the portal repository as well as links that exist outside the portal repository. Documents can be published to the user's personal library, and/or to the workgroups they belong to, or to the public library, if they have authority.

Additionally, CA's Enterprise Content Manager (ECM) tool can provide comprehensive digital content management functionality to the Administrator's content control effort.

Embedded Tools and Services

Virtually any third party software is accessible, including Lotus Notes, via the Portal, depending on the security model of the third party software. CA's open XML-API allows clients to incorporate their own systems within the Portal as well as 3rd party systems that are used within their organizations. Because CleverPath Portal is web-based, delivered through http, the running Lotus Domino http process enables Notes applications to be viewed through a browser (and through CleverPath Portal) with little or no modification.

The Portal can link to the applications and embed the components within the Portal, depending on what the user tells the Portal to retrieve from the third party software. For instance, the e-mail component pulls the unread messages as well as the author and subject from the company's email system. A number of CA Portal clients have embedded application pages for web-enabled scheduling or work flow. Portal currently provides out-of-the-box connectivity to Oracle databases and Microsoft Exchange.

Personalization

CleverPath Portal is extremely user friendly. When the user wants to "personalize" his Workspace, he simply clicks on the Customize Workspace link. He is then given the option to drag and drop the components of choice anywhere in his Workspace. These components may contain bookmarks, Email, Channels, and Web feeds, for example. If a tool or application were one of the components that the user had authority to use, he could drag and drop that application or tool component into his personalized Portal.

Based on the user's authority level and/or the workgroup(s) they are assigned to, each user sees only what components they have authority to use within their Portal, and may personalize the use of those components on their Portal as they see fit. CleverPath Portal allows users to create multiple workspaces.

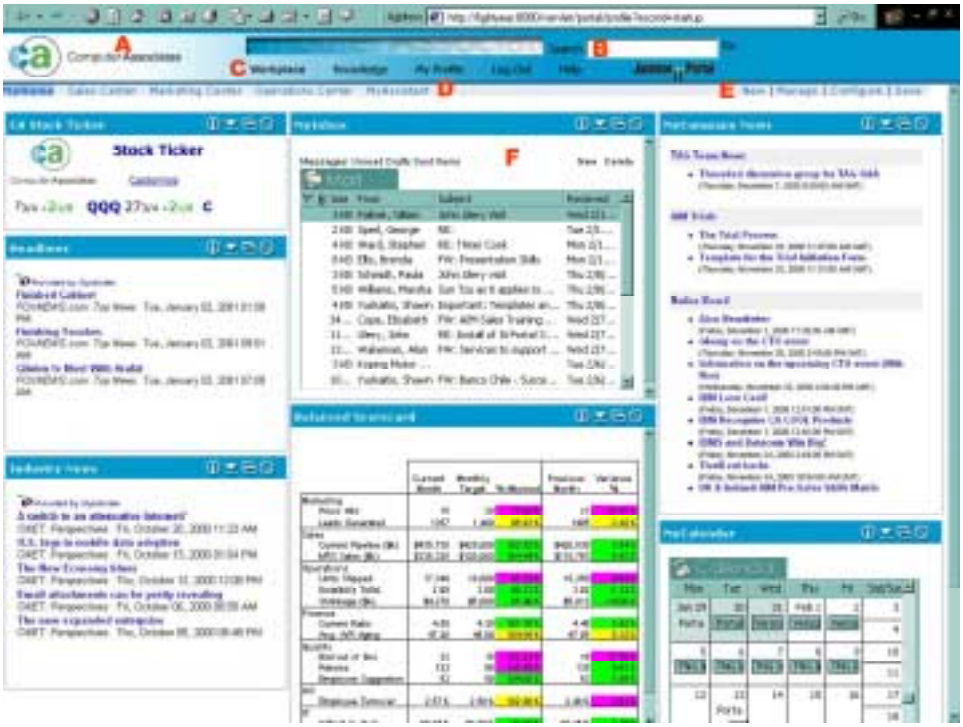
Components, applications, tools, etc. are assigned to users as individuals or as a member of a workgroup. Each user can belong to a number of workgroups. For instance, an office manager in charge of Operations may need to have access to certain applications, tools, reports, or information relating to the operation of a particular part of the business. This same person may part of a strategic direction team that not all other office managers belong to. Both individuals

would belong to the “office manager” workgroup with their associated components, and only the first individual would have access to the strategic direction components, information, reports, applications, etc.

Administrators can assign others to act as sub-administrators. For example, a sub-administrator may be assigned within a specific department or location, and authorized by the Administrator to make changes to that department or location only.

Platform and Connectivity

The CleverPath Portal currently runs on Microsoft Internet Explorer 4.0 and above and Netscape 4.0 and above. These browsers support HTML, DHTML and JavaScript. The CleverPath Portal itself runs on Windows 2000, Windows NT, Sun Solaris 2.6 and 2.7, IBM AIX, HP-UX, and MAC OS 8 and above.



CleverPath Portal stores application data (such as user profiles, directory structures and document links) in Windows NT and all UNIX platforms, including AIX, HP, Solaris, and NT. Supported databases include SQL Server, Oracle, DB2, MS SQL Server, Sybase, Informix, and CA's Ingres. Text and metadata indexes are stored in Windows NT and all UNIX platforms (AIX, HP, Solaris and NT).

Remote users only need a browser, ID and password to access the Portal. At this time they must be connected to the Portal via a URL link from their browser.

The CleverPath Portal itself does not require an application server but is usually deployed using a third party web server with servlet capabilities. The CleverPath Portal *is* a self contained Java servlet based web server. Also, the Portal can be used in conjunction with any application server, transaction server, or message queue the client may already own.

The Portal uses web-based languages to render its display, therefore users must be connected to the web to interact fully with the Portal. The Portal is capable of notifying a user through email when new content that the user may be interested in is published to the portal.

CleverPath Portal supports the following platforms and databases:

Database	Platforms
Oracle 8i, 8.0	Windows 2000 Server; Windows NT 4.0 Server; Solaris 8.0, 7.0, 2.6; IBM AIX 4.3.3; HP/UX 11.0
Oracle 7.3.3	Windows NT 4.0 Server
Microsoft SQL Server 2000, 7.0	Windows 2000 Server; Windows NT 4.0 Server
IBM DB2 6.x, 5.x	Windows 2000 Server; Windows NT 4.0 Server; Solaris 8.0, 7.0, 2.6; IBM AIX 4.3.3

Informix 9.x, 7.x	Windows 2000 Server; Windows NT 4.0 Server; Solaris 8.0, 7.0, 2.6; IBM AIX 4.3.3; HP/UX 11.0
Ingres 2.5	Windows 2000 Server; Windows NT 4.0 Server
Sybase 12	Windows 2000 Server; Windows NT 4.0 Server; Solaris 8.0

Portal Security

CleverPath Portal uses an internal, extensible LDAP compatible directory implemented with any of the major RDBMSs to manage NT User accounts. It allows import from another external LDAP directory and can synchronize with that directory on a scheduled basis. Users authenticate against this directory, which also establishes Groups and Roles for the User that determine access rights within the Portal.

CleverPath Portal uses an internal, extensible LDAP compatible directory implemented with any of the major RDBMSs, including MS ActiveDirectory, to manage User accounts. It allows import from another; external LDAP directory and can synchronize with that directory on a scheduled basis. Users authenticate against this directory, which also establishes Groups and Roles for the User that determine access rights within the Portal.

Out of the box portal security includes user administration. Groups, sub-groups and users can be created within the portal. Privileges concerning content creation/modification/deletion can be set for each individual user or workgroup. Published content can also be assigned a password, which is independent of the workgroup privileges.

In addition, CleverPath Portal supports secure socket layering (SSL) for both the client and administrative communications by using the Jrun Servlet engine or other third party products. CA's eTrust VPN is a highly regarded security tool for administrative communications, which CA will be happy to present as an add-on option to OUS if desired.

Extensibility / Customization / Integration

CleverPath Portal is an out of the box solution that is customizable by users. For instance, Web designers can modify templates and import them back into the portal quite easily, without touching the web application logic. Customization can also be accomplished using CleverPath Portal style sheets with dynamic HTML, compatible on both Netscape and Internet Explorer 4.0 and above. CleverPath Portal supports the following development environments:

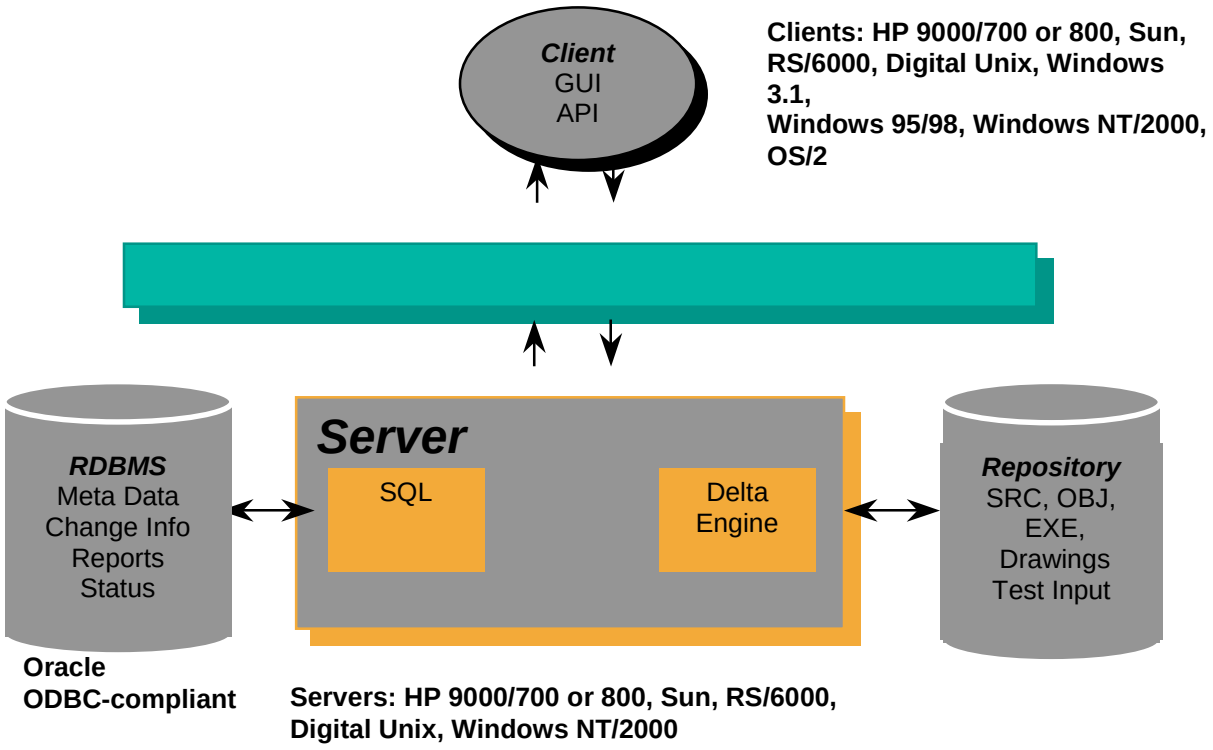
COM/DCOM, Java, JavaScript, ASP (server side VBScript), ActiveX (client-side), HTML, XML/XSL

CCC Harvest

CCC/Harvest provides a comprehensive software change and configuration management (CM) solution for the modern corporate development environment. A fundamental principle influencing the design of CCC/Harvest was the desire to create an integrated support framework that would allow users to continue to do business the way they want.

As part of this support framework, CCC/Harvest addresses a wide range of management and development needs. It not only covers the basics with software inventory management and version control, but it provides sophisticated solutions for many different kinds of application management requirements. The inherent flexibility of CCC/Harvest allows you to model many types of diverse life cycles. These life cycles range from very simple sequential development models to more complex models that support multiple development paths and concurrent updates.

CCC/Harvest architecture



The following list indicates just a few of the application management requirements that can be addressed using the features of CCC/Harvest:

Baseline Management. Most release-oriented development departments begin one development project based on a prior released version of the product. The image of the prior release is “frozen,” meaning that no changes can be made to it. In other development scenarios, there may be a need to have many frozen images of an application at various points in time, allowing users to reproduce an application the way it was at significant points in its history. Each development shop should be able to decide within their own methodology which points are “significant.”

Shared Code Management. Some software development groups build several different applications that share significant components. Managing these shared components can add an additional layer of complexity to the development effort, especially if the shared code is duplicated and must be separately maintained. With CCC/Harvest's application management layer, shared code only needs to be stored once. As part of the initial baseline selection for a product release, the administrator can select a particular release level for each component to be used in the new development project. Shared code can be modified in parallel by different projects or maintained by one group and added in a read-only mode to various projects that use it.

Reusable Component Management. This kind of development is similar to developing with shared code, but in the case of reusable components, all the components are shared. Each new piece can be used by anyone else in the development environment. Just as with shared code, reusable components only need to be stored once in CCC/Harvest and can be "mixed and matched" when an environment is set up.

Concurrent Development. During the development process, there may be times when a developer needs to update an item already being updated by someone else. The pressure of deadlines may not allow the luxury of waiting for the other developer to complete his changes. CCC/Harvest provides a concurrent update process for meeting this need. When added to a state, the concurrent update process allows an item to be checked out for update by more than one package at a time, and the changes later merged together.

Long-Term/Short-Term Project Development. In many development scenarios, it is common for several major projects to be planned along with a large number of smaller enhancements and bug fixes. Typically, the small projects need to advance in the life cycle without pulling along any changes made for the long-term projects, which are not yet complete. This requires some way of keeping the long-term projects "off to the side," until they are ready to be merged into the main line of development.

Parallel Development. Parallel development is similar to concurrent development in that the same items are being updated by more than one user. Concurrent development, however, takes place within one environment and parallel development occurs when the same application is being modified in more than one environment. This might be the case, for example, when one development group is working on Release 1.3 of an application, while another group has begun working on Release 2.0. Some form of parallel development takes place in almost all release-oriented shops, since development on the next release typically begins before all testing and final bug fixes are made in the current one. CCC/Harvest provides important functionality that gives visibility and management support to the parallel development process.

Patch Release Development. In release-oriented shops, there is often a need to make additional changes to an already released version of a product. Serious bugs must be fixed so that current users can continue using the product, at the same time that work is progressing on the next release. CCC/Harvest provides support for designing patch release development into a life cycle and merging these changes into ongoing development.

Variant-Release Management. Some development groups need to support multiple flavors of the same release. These variations might be driven by customer requirements, customization, or hardware platform differences. When a new release is finished, all or part of the customer-specific or platform-specific changes may need to be merged back into the base product code.

Vendor-Code Management. Sites that receive vendor source code and modify it to match in-house requirements face some important CM challenges. When a new version of the vendor software is released, in-house changes need to be merged into it. CCC/Harvest's sophisticated life cycle modeling combined with merge functionality can easily meet this requirement.

With a small set of tools, CCC/Harvest is able to support all of these kinds of application management scenarios and more. The next section describes in detail the features of CCC/Harvest that provide significant support for application management and concurrent

development. Following that, a number of examples are provided that illustrate how this functionality can be applied to various development scenarios.

Application Management Functionality:
CCC/Harvest provides a small number of basic objects. Using these objects, a software organization can build any kind of software development and maintenance model matching the way it does business. These building blocks include *environments*, *life cycles*, *views*, *processes*, and *packages*.
An *environment* in CCC/Harvest is the control framework supporting a particular development and maintenance process. It includes a *life cycle*, made up of *states* and *processes*. The life cycle defines how changes move from state to state and what activities can take place in each state. *Views* define the data that can be accessed from within a state in the life cycle. A *package* is the basic unit of work that moves through the life cycle. It typically represents a problem or an incident that needs to be tracked, the changes made in response to the problem or incident, and any other associated information.

CCC/Harvest supports a full range of development scenarios, from the simple to the complex. The key functions related to application management are described individually in the following subsections:
View management, snapshots, and baselining
Concurrent update
Merging changes
Reporting view relationships and differences

View Management
The *view* is one of the fundamental objects within CCC/Harvest and provides the link between a life cycle, which defines a development process, and the actual data being managed. The concept of a view within CCC/Harvest consists of two related parts. First, the view defines the software inventory that users can access. And secondly, the view points to one particular revision of each data item.
Each environment has an initial view called the *Master View* when it is created. During setup activities, the environment administrator selects repositories to be part of the Master View. Repositories point to sets of external directories on the server where CCC/Harvest keeps the data items under its control.
To facilitate the management of shared code, repositories can be added in a read-only mode. Items in the read-only repository are available on the Workbench to be checked out for browse by developers, but they cannot be changed. This means that developers can use the items that are being managed and changed by other developers in charge of those particular components. Two types of views can be created in CCC/Harvest to support two fundamentally different kinds of activities: *working views* and *snapshot views*.

Working Views
Working views provide access to the data under CCC/Harvest's control so that it can be updated. They are also used to provide support for isolated work areas. This allows item changes to be made visible to different functional groups in a life cycle in a controlled manner. This means, for example, that a QA group can test packages that have been turned over to QA without being affecting by ongoing changes being made in development.

Working views are modified through the check in and check out processes. They are also modified by promoting or demoting packages from states with a different view containing changes made through check out and check in.

Snapshot Views

Snapshot views play a role in the software life cycle that is very different from working views. A snapshot view is a read-only image of a working view at a certain point in time. Snapshots allow administrators to capture a software inventory at significant points in its development. Once a snapshot has been created, it can be used to support other application management functions, such as the following:

Snapshots create a permanent record of an application inventory. Using a snapshot, it is possible to re-create the application as it was at the time the snapshot was made. Some snapshots may be transitory in nature. For example, you might want to fall back to last week's test build if this week's build has serious problems, but you only keep such snapshots around for a short period of time. Other snapshots have more significance and a correspondingly longer life span. For example, you might need to re-create Release 1.1, closed two years ago, when you are now working on Release 3.0.

Snapshots form the foundation for baselining. Once a snapshot is created, it can be used as the starting point for development in another environment. Making the snapshot visible to other environments, as discussed in the next section does this.

Snapshots can be used to update the main line of development in the repository. Since all changes within an environment accumulate on a branch that belongs to that environment alone, snapshots provide an easy way for selecting the versions to be copied back to the main line. Once copied to the main line, the changes reflected in a snapshot become available to later environments that use the same repository.

Global Snapshots

Working views are part of an environment and are only accessible from within it. Snapshot views, however, can be marked as global, so that they are visible from other environments. A global snapshot can be included in the Master View of other environments. Snapshots can also be copied to the repository, which automatically makes them usable by other environments. Some snapshots are temporary in nature. For example you might regularly take a snapshot of the test view when a build is done. If the build is successful, the previous snapshot can be deleted. Since global snapshots will display on the Master View selection list in other environments, they should represent a significant development point.

Concurrent Update

As mentioned previously, CCC/Harvest uses an underlying branching algorithm. Environmental branching forms the basis for parallel development. In parallel development, the same items are being modified in two or more different environments. Each environment represents a separate line of development.

Within CCC/Harvest, branching is not limited to that which occurs between environments using the same items. Branching within an environment is supported through the concurrent update mode of the check out process. When this mode of check out is specified, a branch version is reserved for the changes made by the specified package.

Only one level of branching is supported within an environment. Another way to look at this is that each branch "belongs" to the package that made it. All changes made by the package accumulate on that branch, allowing the package changes to be isolated from other packages. The administrator can decide whether to allow a package with unmerged branches to be promoted to the next state, or whether a merge should be required before packages with branches can proceed in the life cycle.

Branching can be used basically in two different ways: to meet an occasional need or as the method of choice for managing changes. These two ways of using branches are described as *item-level branching* and *package-level branching*.

Item-Level Branching

When sequential updating of items is enforced, only one user can check out an item for update. Other users must wait until the first user's modifications are complete before they can check the item out. This limitation may adversely affect the turn-around time for a project.

CCC/Harvest addresses the need for occasional concurrent updates through the concurrent update mode of the check out process. The administrator can decide which modes of check out to permit when the process is added to a state. A process with this mode of check out can be added to a development state only and execution controlled through process access. Concurrent update can then be used in an "ad hoc" manner to relieve the pressure when simultaneous updates to the same item are required. Developers working on different packages check out the same item for update and then merge their changes at a later time.

Package-Level Branching

Concurrent update can also be used to enforce a more structured form of package branching. When an environment is set up, administrators can require that all changes occur on branches by allowing only the concurrent mode of check out. Enforced branching can be used to support some of the development scenarios with special requirements. By keeping all package changes on branches, users can gain an additional level of control over how changes progress in the life cycle.

Because only changes on the main line are included in the inventory of a working view, keeping changes on a branch can be used as a way of managing development without affecting the views in a life cycle. Once changes have been made and tested, they can be merged to the main line and then become "visible" in a view.

Package branching is useful in production-oriented development shops. It can also be used to manage scenarios that include both long-term and short-term development projects. Finally, because package branching effectively isolates package changes, it can be an important tool in any scenario where there are a large number of developers and a large number of changes to manage.

Merging Changes

To provide the most complete support for different application development scenarios, CCC/Harvest provides three related processes for merging changes back to the main line:

A process that merges packages across environments

A process that merges packages within an environment

A process for interactively reviewing merged changes and resolving conflicts

Used together, these three processes provide flexible support for many different kinds of development life cycles.

Cross-Environment Merge

The cross-environment merge process is used to bring changes made in one environment into another environment. Its most important use is with parallel development, when two or more environments are making changes to the same items. It provides a versatile way of propagating changes to related environments.

To simplify its execution, the cross-environment merge is package based. Consider a parallel development scenario where some developers are completing a maintenance release called **Release 1.7** while other developers have begun working on a major redesign of the application for **Release 2.0**. In the **Release 1.7** environment, a problem is corrected that should also be fixed in **Release 2.0**. This problem is fixed with a package named **Bug 27** in **Release 1.7**. Using the cross-environment merge, package **Bug 27** is selected and its changes are merged into a package in **Release 2.0**. If the items changed in **Release 1.7** have not yet been changed in **Release 2.0**, the merge simply acts like a copy; otherwise, changes are merged.

To provide optimum flexibility, the cross-environment merge allows you to merge into a branch in the destination environment. This minimizes any impact on ongoing development in the destination environment, and allows the actual merging of changes and resolving of conflicts to be more tightly controlled. This also allows the cross-environment merge to accommodate the requirements of life cycles using enforced package branching.

Concurrent Development Merge
The concurrent development merge is used within an environment. It is specially designed to support package-level concurrent development. Once a package is selected, the concurrent development merge finds all the unmerged branches that belong to the package and merges them back to the main line in one simple operation.

Interactive Merge
Once the merge operation has taken place through the cross-environment merge or concurrent development merge, the interactive merge process can be used to interactively review the merged versions and resolve any conflicts.
The creation of merged versions is generally package based. If needed, the interactive merge process can also be used to merge a single branch and then display the results for review.

Reporting View Relationships and Differences
Intelligent management of an application requires visibility over significant information maintained by the CM system. CCC/Harvest supplies two reports that are of particular importance to application management: the Repository View Relationship Report and the List Difference Report.

Repository View Relationship Report
The Repository View Relationship Report shows the relationship between views that have been copied to the repository and global snapshot views of the repository. This relationship is depicted in terms of an indented listing.
The View Relationship Report for this repository might look like the following:

```
INITIAL
  Beta 1:1.0 Development
  Release 1.0:1.0 Development
Release 1.0
  Release 2.0:2.0 Development
Release 2.0
```

In this report, each view that is part of the repository main line of descent appears left justified. Other snapshot views of this repository that have been marked as externally visible display indented under the repository view on which they are based. The snapshot name and environment name are concatenated, to make the relationship more clear.
The **INITIAL** view represents the repository inventory when it was first loaded. Development began in the **1.0 Development** environment. Two global snapshots were created in this environment: one representing the application inventory when the first beta version was distributed and the other representing the final completed release. The second snapshot, representing the completed release, was then copied to the repository main line. Environment **1.0 Development** was then duplicated to create **2.0 Development** for the next development project. When the Master View of **2.0 Development** was defined, the **Release 1.0** snapshot in the repository was used as the starting point for development. Once development in the **2.0**

Development environment was complete, a snapshot of that release was made and copied to the repository.

List Difference Report

List Difference Reports provide a powerful, effective means of displaying the differences between any two views or snapshots. The views selected may be local to an environment. For example, you can display the differences between the development view and the test view, or between the Beta 1 snapshot and the Beta 2 snapshot. You can also display the differences between views across environments. For example, you might want to see which items were changed between Release 1 and Release 2 of an application.

The List Difference Report allows the user to select the level of detail for reporting. An overview report simply shows which items in the first view were changed in the second, as well as displaying new items and deleted items. The user may also request to see the actual line-by-line differences between the items in the two views.

Application Scenarios

CCC/Harvest's application management functionality provides flexible support for many different application development scenarios. When combined with life cycle and process modeling, effective solutions for any development requirements can be created. The following sections illustrate how to apply these features of CCC/Harvest in three sample scenarios:

The Production Model. The production model illustrates a life cycle built on enforced package branching. A similar approach could be used to manage long-term/short-term development scenarios.

Parallel Release Development. This scenario illustrates how to manage the merging of changes from one environment to another. This kind of model can also be used to handle vendor code and variant-release development, as well as long-term/short-term project scenarios.

Overlapping Releases in One Environment. This model illustrates an efficient way to manage a series of small maintenance releases in one environment. A similar approach could be used for patch releases or emergency maintenance.

The Production Model

This environment is geared toward keeping existing applications operational. There is a constant flow of small changes to production, through a very tightly controlled process. Software staff generally controls particular areas of the application and manages its own change process. The biggest advantage of the production environment is that you always have the most recent version of software available for use. Changes are continually incorporated as they are completed, and do not have to wait for a whole set of other changes to be implemented before they are available.

In the production model, all new development should begin with the version that is currently in production. This means that new development should not include the changes made by packages that have not yet been incorporated into production. To accomplish this isolation of changes, the states where code changes are made and tested share the same view as production. To prevent the production view from being affected by ongoing development, package-level branching is enforced. All changes are made on branches and branch changes do not affect the current view. The production view is only updated after changes have been merged and tested in a state with a different view.

A simple production model might look like the one in the following figure:

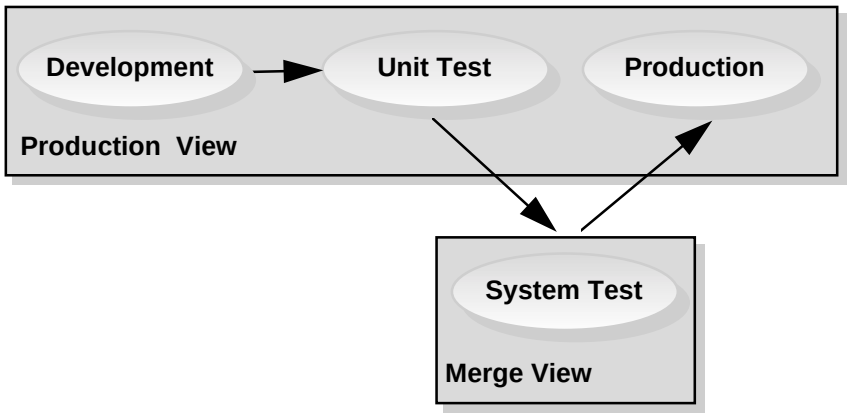


Figure 1: A Production Life Cycle

In this figure of a sample production life cycle, packages are defined in the **Development** state. Since all states except **System Test** share the **Production** view, developers must use the concurrent mode of check out whenever they update an item. When this mode is used, all changes for a package accumulate on a branch. Since branch deltas do not affect the view, the ongoing development is effectively "hidden" from the **Production** view.

To perform test builds, this model requires the existence of only one set of reference directories based on the **Production** view. All package builds in **Development, Unit Test,** and **System Test** are executed on top of the **Production** view.

Most of the work of managing changes in the production model takes place in **System Test**. The various package branches must be merged and the results of the merge tested. **System Test** does not share the **Production** view since its view is altered as packages are merged back to the main line of descent in this state. Package branching gives the system integrator a great deal of flexibility in the merge process. He can select when to merge packages and in what order to merge them.

Once a package or set of packages has been merged in the **System Test** state and integration testing is complete, the package is promoted to **Production**. It is only at this point that the **Production** view is updated. All changes made by the packages become immediately available to users who access the **Production** view. The next time a developer checks out one of the items changed by a package incorporated into production, he will get the updated version of the item.

The promote to production process can be managed with approvals and notifications. Whenever the **Production** view is updated, the check-out for synchronize process can be used to update the production reference libraries so that the application can be rebuilt and changes made available to all users of the system.

Parallel Release Development

There is mounting pressure for software development departments to make more frequent releases. This means that parallel releases are becoming the normal mode of development for many shops. A sound and complete method for managing this type of development is one of the requirements for a complete CM system.

As the time to close a release approaches, the number of changes being made to an application usually decreases. Final changes are limited to bug fixes made in response to continued testing. To make optimal use of development resources, developers often need to begin working on the next release before the current one is complete. When the initial release is complete, additional changes from the older release must be merged in.

The following diagram shows this kind of a development scenario:

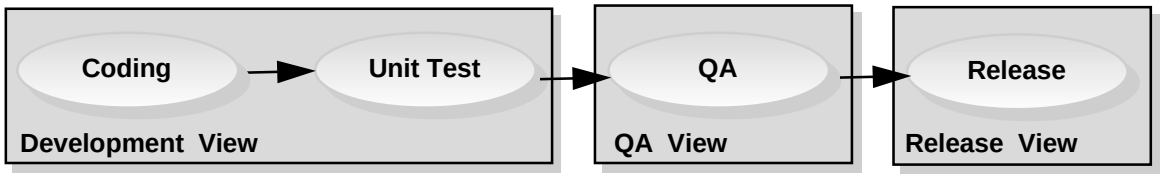


Figure 2: Development in Release 1.0 Environment

When development in this life cycle is almost complete, a snapshot of the **Release** view can be created, reflecting a significant point in the development history.

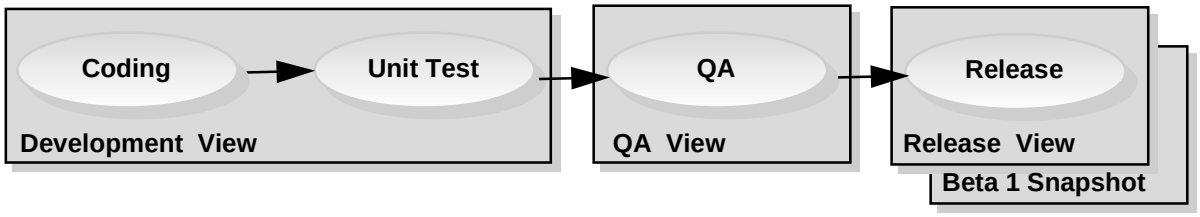


Figure 3: Snapshot of Release View in Release 1.0

The **Beta 1** snapshot is then copied to the repository and the **Release 1.0** environment is duplicated to create **Release 2.0**. The **Beta 1** snapshot is used as the basis for beginning development in **Release 2.0**.
Now it is important to keep track of all new packages introduced into the **Release 1.0** environment so that they can be merged at a later time into **Release 2.0**. An easy way to do this is by creating a package group. You might call it **Final Changes**. All new bug fix packages are made part of this group.
When development in **Release 1.0** is complete, the cross-environment merge process is used to bring the additional package changes made since **Beta 1** into the **Release 2.0** environment.

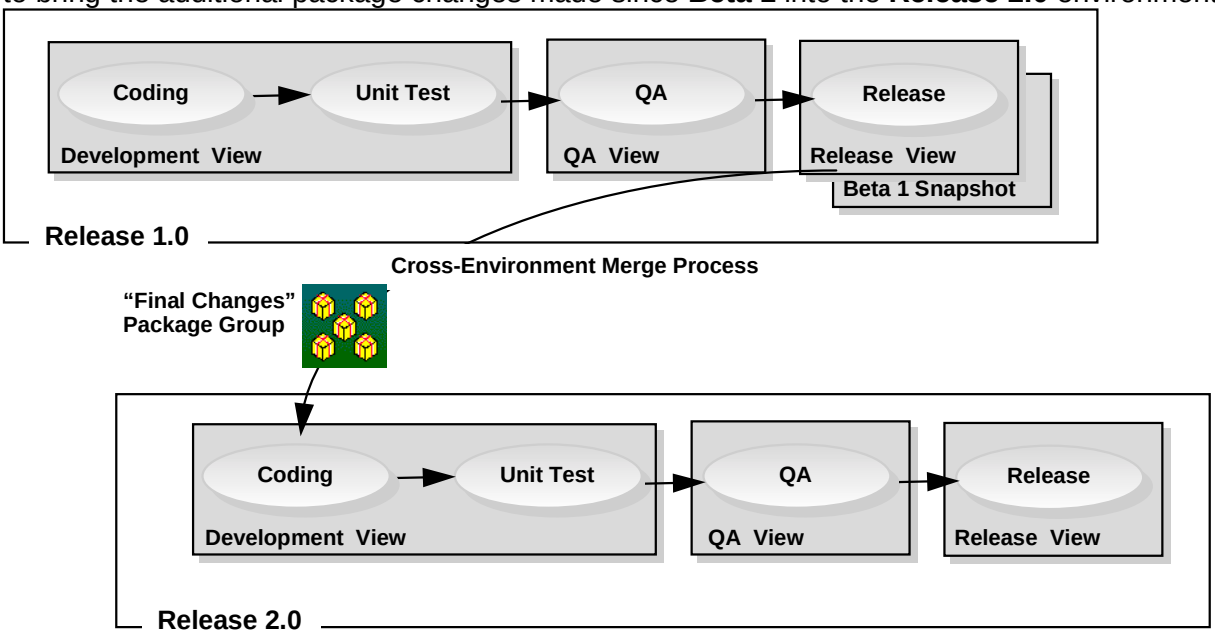


Figure 4: Cross-Environment Merge

Overlapping Releases in One Environment

In many simple development scenarios, each product release is completed in a single environment. When the release is finished, a snapshot is created and copied to the repository. Then the old environment is duplicated and the latest view in the repository is included in the new environment's Master View.

It is possible, however, to extend the usefulness of an environment to include a series of releases. This can be an effective solution if you have a number of small, closely related maintenance releases. Managing these releases in one environment can be more efficient and minimize impact to ongoing development. Developers can continue working on packages and management can decide at a later point exactly which packages to include in the next release. Simply promoting selected packages to the Release view, and leaving others in a previous state can manage this.

The freezing of a software inventory at a certain point in time is accomplished in CCC/Harvest through the snapshot function. To design a life cycle that supports multiple environments, a state must be added that gives access to the prior release views. Package grouping can be used to distinguish the release in which a package was completed.

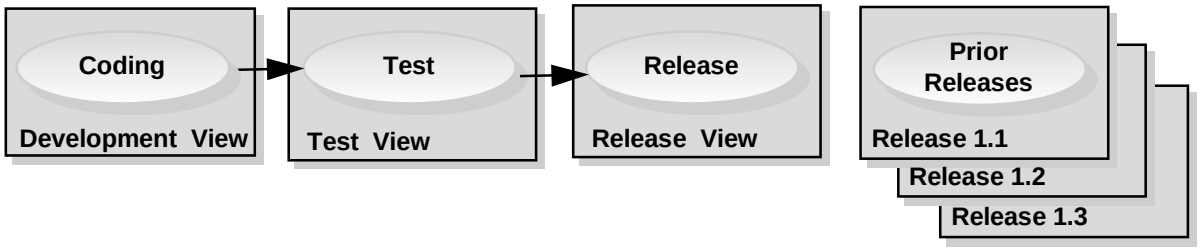


Figure 5: Managing Overlapping Releases in One Environment

In this figure, packages proceed in the development life cycle from **Coding** to **Test** to **Release**. When all packages for a release are complete and have been promoted to the **Release** state, a snapshot of the **Release** view is made. These snapshots can be accessed through the **Prior Releases** state. In this figure, the **Release** view currently corresponds to all changes that have accumulated through **Release 1.3**, plus any later development packages that have been completed for **Release 1.4**. **Release 1.4** is not yet complete and a snapshot of it does not currently exist.

The List Difference Report becomes extremely useful in this kind of development scenario. Managers can easily generate a report that shows exactly which items are different between any two-snapshot views, like **Release 1.2** and **Release 1.3**. Reports can also be generated showing the difference between a snapshot and a working view, like between the **Development** view and **Release 1.1**.

Since the changes for each release remain in the working views of this life cycle, this kind of environment is recommended only when the number of changes is limited in scope. Starting over with a new environment means that the working views initially display one version.

CleverPath ECM

The core server components of CleverPath ECM are developed in J2EE compliant Java. Therefore the CleverPath ECM server components can run inside any J2EE compliant application server, on a wide variety of runtime platforms, such as Windows 2000, flavors of Unix and Linux. CleverPath ECM is built on top of CleverPath Integration Platform, which readily enables ECM to integrate with a wide variety of data sources and business applications and ERP systems running on a wide range of platforms, such as Windows 2000, Unix and mainframe host systems

CleverPath ECM also embraces the following as key implementation technologies:

> WebDav – for content distribution and submission. WebDav is a XML based protocol commonly adopted as an industry standard for modern content management solutions.
> XML – ECM relies heavily on XML and related technologies such as XSL transform to support a flexible thin-client user interface. This technology also makes ECM ready to serve a wide variety of remote client devices such as wireless devices, PDA's, etc.

CleverPath ECM (ECM) offers the complete set of features required to store, index, retrieve, and publish digital assets such as video, audio, images, documents, and others. Anything that can be converted to a sequence of bytes is considered a digital asset and can be managed by the system.

A digital asset saved in CleverPath ECM becomes a digital product that can be easily found, repurposed, shared, sold, offered for a subscription fee, published on a web site, played, streamed, included in a playlist, sent as an email attachment, and used in many other different ways.

The following is a list of components that are installed as part of CleverPath ECM:

- A relational database that is used to store meta-data describing digital assets
- An object-relational (OR) mapping layer that is used to access meta-data and allows definition of new fields and classes through inheritance and polymorphism
- An application server that offers support for version management, check-in/check-out, content based search, meta-data based search, and others
- A collection of media plug-ins for a long list of asset types; plug-ins extract meta-data, create thumbnails, and perform other tasks; a plug-in SDK is included
- A workflow engine with an authoring tool that allows the user to define flexible and ad hoc business processes, e.g. content approval, involving digital assets saved in the system
- An XML server that implements WebDAV, an industry standard for distributed asset management that enables integration with tools from Microsoft, Adobe, and others.

CleverPath Integration Server, an enterprise application integration platform that can be used to integrate CleverPath ECM with royalty management systems, product databases, and other business systems.
Out-of-the-box integration with streaming servers, e.g. the ones from Real and Microsoft web-based end-user and administration tools that can be used remotely from any machine that has a browser installed

CleverPath ECM provides the following out-of-the-box functions:

- Highly scalable implementation for storage of documents, contents and rich media assets of any type
- Automatic tagging of metadata for a wide variety of content types
- Automatic thumbnail creation for video and image types
- Easily customizable schema for meta data definitions
- Content searches based on meta data as well as document content
- Content versioning
- Checkin/checkout
- Access control based on Owner, Group and Public levels
- User authentication
- Highly customizable workflow engine
- Predefined workflow processes
- Email notification
- Automated document publishing to Portal
- Intelligent content loading utility
- Various metrics reports
- 100% web browser based user interface
- Portal ready user interface
- Readily available API for integration with a wide variety of business applications

Existing contents can be loaded via a thin-client GUI interface, via dragging/dropping using Windows Explorer or via a bulk loading utility that can be run as a batch process.

ECM's out-of-the-box user interface is 100% based on thin-client. This eliminates the need for installing and maintaining software components resident on client desktop systems, thus minimizing total cost of ownership. Content browsing, administration tool and workflow client interfaces requires only web browsing capabilities on client workstations. Client and server communicate mainly through http and WebDav (XML streaming.) Because of this open standard, and the fact that ECM incorporates the CleverPath Integration Platform, it is possible to integrate ECM's content management server with desktop client tools and utilities.

To define, deploy, and enforce common digital content release processes, some form of workflow is required. CleverPath ECM offers a workflow engine as one of its core components. The engine is based on the embedded workflow paradigm. It is integrated with the meta-data store and can update the state of a workflow process automatically as properties of content involved in the process change in the digital content management system. For example, the workflow engine can be configured in such a way that when the value of the "approved" property of a certain digital content changes from "no" to "yes", a task in a workflow process is marked as complete and the process is automatically advanced to the next step.
Workflow models can also be developed to automate the process of content creation and publishing. CleverPath ECM provides built-in capabilities to publish only approved contents. Publishing activities are typically triggered by events defined in the workflow model.

EDBC

EDBC provides realtime, high-performance read/write connectivity to OS/390 Enterprise Databases from mission-critical Windows client/server and Web-deployed (Internet, intranet, and extranet) applications. EDBC directly connects business applications to mainframe-based enterprise databases, such as DB2, IMS, CICS/VSAM, VSAM, CA-IDMS, and CA-Datacom.

Mainframe Investment Ñ Internet Deployment

Businesses have countless years and dollars invested in developing and refining the critical mainframe enterprise information that they base their business on every day. As business becomes more and more competitive, organizations are being forced to move towards Web-based solutions that are engaging, flexible, intuitive, entertaining, and fun. Historically, however, these Web-based solutions have not been directly linked with mainframe-resident enterprise data.

EDBC resolves this problem by providing realtime, high-performance read/write connectivity to OS/390 enterprise databases with mission-critical Windows client/server and Web-deployed (Internet, intranet, and extranet) applications. EDBC directly connects business applications to enterprise databases, such as DB2, IMS, CICS/VSAM, VSAM, CA-IDMS, and CA-Datacom on the OS/390 mainframe platform.

Enterprise Access Quality Internet Applications

EDBC enables direct access to enterprise-wide mainframe legacy data, enabling businesses to build quality Internet applications.

For example:

- Web-deployed applications can now access the latest enterprise product catalog information, enabling customers to browse this information anytime, anywhere.
- Orders automatically update the mainframe database, enabling customers to monitor the order progress from inception, into manufacturing, to product completion and shipping.
- New product offerings can be advertised and detailed directly from the enterprise database, placing product data dynamically into Internet advertisement copy.

Value Added Non-Intrusive Implementation

EDBC works within the existing OS/390 infrastructure, adding value without impacting existing business processes. The EDBC value-added implementation is comprised of the following components:

- **OS/390 Enterprise Database Interface.** Provides seamless integration with all major OS/390 transaction server environments (CICS, IMS/TM, CA-IDMS DC, CA-Datacom DC) for full access to SQL databases (DB2, CA-IDMS, CA-Datacom) as well as IMS, CICS/VSAM, and VSAM databases.
- **OS/390 EDBC Server.** Using TCP/IP, this component provides a multi-threaded connectivity and security layer between the OS/390 Enterprise Database Interface and Windows client/server, Internet, intranet, and extranet business applications.
- **Integrated Client Connectivity.** Using TCP/IP, this component provides connectivity between the application issuing requests and the OS/390 mainframe.
- **Open API Access.** EDBC supports several Application Program Interfaces (API), enabling Windows client/server and Web-based applications to communicate through one of several options.
- **Visual Database Configurator.** A Windows client/server application that uses EDBC to provide full DBA functionality for the OS/390 host SQL database from a Windows desktop.

Visual Database Mapper. A Windows-based DBA tool that enables the interactive mapping of non-relational (non-SQL) databases into a relational form.

Leveraging Skill Sets Ñ
Freedom To Choose Tools
EDBC provides the flexibility to implement Windows client/server and Web-deployed applications with YOUR CHOICE of best-of breed development tools, not some proprietary development environment.
EDBC embraces a wide complement of industry APIs, including ADO, JDBC, OLE/DB, ODBC, and CGI. In addition, through the ADO (ActiveX Data Objects) API, EDBC can connect Microsoft Internet
Information Server (IIS) and Active Server Pages (ASP) directly to OS/390 data sources.

When You Add It Up
EDBC enables corporate Web presence with:
Realtime, high-performance read/write Web-to-mainframe connectivity.
Support for OS/390 enterprise data sources.
Support for industry-standard client APIs.
A non-intrusive, mainframe/client-friendly implementation.
Tools to manage OS/390 enterprise data sources from a graphical environment.
EDBC provides for the quick and flexible deployment of
Windows client/server and Web-based solutions that leverage your business investment in mainframe data.

Minimum Technical Requirements
Host Mainframe:

OS/390 R1 or MVS/ESA 5.1
OS/390 TCP/IP 2.5
CICS 3.11 or CICS Transaction Server for OS/390 1.1 or IMS DC 4.1 or CA-IDMS DC 12.0 or CA-Datacom DC 8.1
DB2 3.1 or IMS 4.1 or VSAM or CA-IDMS DB 12.1 or CA-Datacom ® /DB 8.1

Client:

Windows 95/98, Windows NT 4.0 Workstation, or Windows NT 4.0 Server
Pentium 100 or above, 32Mb RAM, 50Mb hard disk space
TCP/IP

Masterpiece/Net

Strengths:

Strong general ledger functionality (e.g., multiple company hierarchies, multiple fiscal sets, average daily balance reporting). The package is mature with a functionally rich workflow tool, including extended workflow monitoring functions (statistics, task rerouting, etc.).

Flexible general ledger account and relationship structure provides real-time multiple hierarchical views of a company structure for either standard or disparate charts of accounts.

General ledger now includes customer activity summary, including project accounting and parent-child project relationships.

Multinational capabilities — Up to 12 different currencies can be supported at the transaction level. The product is available in 15 different languages and is also euro compliant. Approximately half of Masterpiece/Net users are located outside the US, with the greatest portion of their international business located in the western European region.

The product contains an integrated workflow engine that provides user-based, task-driven processing and workflow monitoring, which is very effective in assisting new users. The user interface is a dramatic improvement over previous versions.

CA also offers BizWorks (optional add-on), which enables financial planning activities throughout the interBiz suite of applications.

Financial Accounting

The company began with a focus on IBM mainframe platforms and, in 1989, introduced CA90s software architecture, which unified its development strategy for future multiplatform business applications. In 1991, Masterpiece was re-architectured to adopt CA90s architecture, available in multiple databases and platforms.

In 1995, the company introduced its client/server architecture. In 1996, the company introduced Jasmine, another flagship product used for building and deploying systems targeted toward the Internet and intranet. Masterpiece/Net was introduced in 1997 and was developed using COBOL and Java. In 1999, the interBiz division was formed. This is the company's independent business unit for finance, HRM, banking, and supply chain management. Combined, these areas represent the company's e-business applications division, interBiz.

InterBiz falls under the e-business applications division of Computer Associates. InterBiz Financial Group focuses on financial management, HR management, and e-business intelligence with three product lines: Masterpiece/Net (enterprise financial management), BizWorks eBusiness Intelligence Suite (providing enterprise integration, visualization and predictive technologies), and Masterpiece/Net HRMS (payroll and human resources management). InterBiz also includes the interBiz Supply Chain Group and interBiz Banking Group (banking management solutions).
Computer Associates' suite of products also includes Neugents, for predictive business intelligence capabilities. This product has the ability to process large volumes of data to identify e-business patterns. Combined with Jasmine, the XML-based infrastructure used for the creation and integration of Internet applications, it has the ability to integrate information across all sources, including e-commerce, ERP applications, and legacy systems. Two additional CA flagship products are Unicenter TNG, a network and systems management application suite, and Ingres (RDBMS). In 2001, Masterpiece/Net became available with an XML interface.

Selected enhancements from Masterpiece/Net 1.2 to Masterpiece/Net 1.3 include the following:

Job Cost Module
New features to support project management, including project resource planning and progress tracking features.
Labor Distribution Module
New features to increase tracking and monitoring resources
Introduced functionality to generate, maintain, and monitor timesheets
General Ledger
Custom Activity Summary functionality added to allow any user-defined period down to the daily level.
Accounts Payable
Voucher functions have been enhanced with the ability to pay vouchers using multiple payment schedules and to match credit memos to a particular voucher.
Integration with Account Receivable in the areas of accounts receivable/accounts payable balance netting and account association.
XML-based user interface
Total Integration with BizWorks, the eBusiness Process Management suite.
The company also added new functionally and improved existing features in Common Services, Purchasing, Draft Services, and Accounts Receivable.

Unicenter Network & Systems Management 3.0

Unicenter 3.0 Network and Systems Management enables an organization to deploy and manage a reliable infrastructure that supports their business objectives, by ensuring continuous availability of their infrastructure. As a component of CA's Unicenter family of comprehensive eBusiness Infrastructure Management solutions, Unicenter 3.0 Network and Systems Management enables an enterprise to continuously monitor the health and availability of heterogeneous systems, networks, and other IT elements within and beyond the extended enterprise

Key Messages

Manages Across Enterprises. Unified management of extended enterprise supporting new eBusiness initiatives involving customers, partners, suppliers & employees crossing traditional business and technical (eg, firewall) boundaries

Rapid Return on Investment. Adaptive and Modular design of focused management solutions to address specific management needs and faster deployment, Deploy as and only when required with rich integration help reduce initial investment

Advanced Visualization & Intelligence. Extensive root cause analysis and advanced event correlation services help to identify origin of problems while visualization simplifies the complexities of the IT infrastructure and their relationships increases navigational ease & provides single user interface

Vendor independent, interoperable Management. Any operating platforms from mainframe to handheld; LAN WAN and SAN management in any size of the heterogeneous environment

Product Description

The Unicenter Network and Systems Management product manages the health and availability of operating systems and provides basic status management on all infrastructure elements such as network devices, business applications and database systems. Powerful auto-discovery builds a database with information on system elements and populates 2D and 3D system dynamic visualizations. Historian keeps you informed with past events and object status whereas predictive management capabilities inform you about possible bottlenecks in your systems and applications in future to take automated actions to avoid them. Portal technology provides personalized intuitive information for both technical and business focused administrators.

Unicenter 3.0 Network and Systems management provides:

- Adaptive and modular packaging which in turn makes it easy to deploy, rapid ROI
- Easy integration through common data bus and Jasmine intelligent infrastructure
- Advanced Event Correlation service to avoid havoc in your environment
- Extended root cause analysis to find origin of the problem and avoid bottlenecks
- Proactive and historic management through 'Historian' to find secrets of the past
- Advanced visualization capabilities to get hyperbolic views of your IT resource
- Extensive monitoring of your operating environment with array of systems agents
- Extended enterprise management through firewall(s) to support eBusiness initiatives
- In details and dynamic business process views showing impact on business processes
- Enterprise management portal showing personalized business centric and technical data
- Management of Wired and wireless network in addition management from PocketPC
- Enhanced wireless messaging support in notifications for quick and automated response
- Basic up and down polling of your entire network devices for availability management
- Auto discovery of different types of networks, systems, databases and applications etc
- Automatic topology mapping in 2D or 3D views for better visibility of IT resources
- Management of new and emerging operating platforms available in the industry today
  Support for new protocols, new standards and innovative technologies out-of-the-box

- Out-of-the-box predefined policies to help you deploy faster and reduce operations cost
- Management of the management platforms itself while managing your entire business
- Heterogeneous management of your IT resources from mainframe to handheld
- Extensive reporting capabilities and tools to create integrated customer, dynamic reports
- Value added add-on such as cluster management and high availability for 99.99% uptime
- Value added add-on such as system and database performance to address specific IT need
- Value added add-on to manage legacy systems like OS/390, z/0S, OpenVMS, NSK etc
- And finally integration with other modules using common services and developer edition

Appendix D. Implementation Timeline

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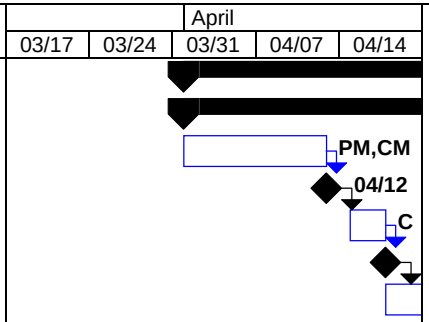
State of Indiana
Case Management System Implementation

ID	Task Name	Duration	Start	Finish
1	**Indiana CMS Deployment**	**785 days**	**Mon 04/01/02**	**Fri 04/01/05**
2	**P1 - Project Initiation and Planning**	**28 days**	**Mon 04/01/02**	**Wed 05/08/02**
3	Prepare Work Plan / Project Charter	10 days	Mon 04/01/02	Fri 04/12/02
4	Publish Work Plan /Project Charter	0 days	Fri 04/12/02	Fri 04/12/02
5	Establish Project Change Management Standards	3 days	Mon 04/15/02	Wed 04/17/02
6	Publish Project Change Management Standards	0 days	Wed 04/17/02	Wed 04/17/02
7	Establish Project Development Standards	3 days	Thu 04/18/02	Mon 04/22/02
8	Publish Project Development Standards	0 days	Mon 04/22/02	Mon 04/22/02
9	**Installation of Baseline Development System**	**12 days**	**Tue 04/23/02**	**Wed 05/08/02**
10	Setup of Delivery Server	3 days	Tue 04/23/02	Thu 04/25/02
11	Setup of Database Server	3 days	Fri 04/26/02	Tue 04/30/02
12	Setup of Financial Server	3 days	Tue 04/23/02	Thu 04/25/02
13	Definition of Indiana Charge Codes	3 days	Wed 05/01/02	Fri 05/03/02
14	Definition of Indiana Fine / Fee / Costs Structure	3 days	Mon 05/06/02	Wed 05/08/02
15	**P2 - Requirements Analysis**	**48 days**	**Thu 05/09/02**	**Mon 07/15/02**
16	Justice I - CMS Gap Analysis	10 days	Thu 05/09/02	Wed 05/22/02
17	Prepare Justice 1 Gap Analysis Document	5 days	Thu 05/23/02	Wed 05/29/02
18	Justice 2 - CMS Gap Analysis	10 days	Thu 05/30/02	Wed 06/12/02
19	Prepare Justice 2 Gap Analysis Document	5 days	Thu 06/13/02	Wed 06/19/02
20	Other - CMS Gap Analysis	10 days	Thu 06/20/02	Wed 07/03/02
21	Prepare Other Gap Analysis Document	5 days	Thu 07/04/02	Wed 07/10/02
22	Publish Gap Analysis Document	0 days	Wed 07/10/02	Wed 07/10/02
23	Revise Workplan	2 days	Thu 07/11/02	Fri 07/12/02
24	QA Audit	1 day	Mon 07/15/02	Mon 07/15/02
25	**P3 - CMS System Design**	**18 days**	**Mon 07/15/02**	**Wed 08/07/02**
26	Preparation of Modification Specifications	5 days	Mon 07/15/02	Fri 07/19/02
27	Prepare Interface Specifications	5 days	Mon 07/22/02	Fri 07/26/02
28	Modify Oracle Data Model for System Mods	2 days	Mon 07/29/02	Tue 07/30/02
29	Review of Initial Code Table Values	3 days	Wed 07/31/02	Fri 08/02/02
30	Mapping of Documents to Merge Values	3 days	Mon 08/05/02	Wed 08/07/02
31	Deliver Detailed Modifications Specification and Revised Project Plan	0 days	Wed 08/07/02	Wed 08/07/02
32	**P4 - CMS Construction, Configuration and Unit Test**	**80 days**	**Thu 08/08/02**	**Wed 11/27/02**



State of Indiana
Case Management System Implementation

ID	Task Name	Duration	Start	Finish
33	Construct/Unit Test Financial API	20 days	Thu 08/08/02	Wed 09/04/02
34	Construct / Unit Test Justice 1 Modifications	20 days	Thu 08/08/02	Wed 09/04/02
35	Construct / Unit Test Justice 2 Modifications	60 days	Thu 09/05/02	Wed 11/27/02
36	Construct / Unit Test Other Modifications	20 days	Thu 09/05/02	Wed 10/02/02
37	**Construction/Unit Test of Interfaces**	**35 days**	**Thu 08/08/02**	**Wed 09/25/02**
38	Standard BMV Interface	5 days	Thu 09/05/02	Wed 09/11/02
39	Standard ISP Interface	5 days	Thu 09/05/02	Wed 09/11/02
40	Standard FSSA Interface	5 days	Thu 08/08/02	Wed 08/14/02
41	Standard DOC Interface	5 days	Thu 09/05/02	Wed 09/11/02
42	Standard Quest Interface	5 days	Thu 09/12/02	Wed 09/18/02
43	Standard ProsLink Interface	5 days	Thu 09/19/02	Wed 09/25/02
44	Supervise Document Creation	30 days	Thu 08/08/02	Wed 09/18/02
45	Create Initial Reports	60 days	Thu 08/08/02	Wed 10/30/02
46	Prepare/Update Documentation	30 days	Thu 08/08/02	Wed 09/18/02
47	Deliver Preliminary Modified Programs, Documents, Reports, and Docum	0 days	Wed 10/30/02	Wed 10/30/02
48	**P5 - System Testing**	5 days	Thu 10/31/02	Wed 11/06/02
49	**P6 - User Acceptance Testing**	**136 days**	**Thu 11/28/02**	**Thu 06/05/03**
50	Implement Delivery Server	3 days	Thu 11/28/02	Mon 12/02/02
51	Implement Production Database	3 days	Tue 12/03/02	Thu 12/05/02
52	Conduct "Train the Trainer" Training	3 days	Fri 12/06/02	Tue 12/10/02
53	Conduct Key User Training	3 days	Wed 12/11/02	Fri 12/13/02
54	Conduct Administration and Reporter Training	2 days	Mon 12/16/02	Tue 12/17/02
55	Test Site 1 Implementation	10 days	Wed 12/18/02	Tue 12/31/02
56	Modifications to correct testing errors	10 days	Wed 01/01/03	Tue 01/14/03
57	Deliver Test Site Acceptance Statement	1 day	Wed 01/15/03	Wed 01/15/03
58	**Test Site 2 Implementation (Marion County)**	**101 days**	**Thu 01/16/03**	**Thu 06/05/03**
59	Conduct Key User Training	10 days	Thu 01/16/03	Wed 01/29/03
60	Justice 1 Replacement Implementation	40 days	Thu 01/30/03	Wed 03/26/03
61	Justice 2 Replacement Implementation	40 days	Thu 03/27/03	Wed 05/21/03
62	Modifications to correct testing errors	10 days	Thu 05/22/03	Wed 06/04/03
63	Deliver Test Site Acceptance Statement	1 day	Thu 06/05/03	Thu 06/05/03
64	**P7 - Implementation**	**455 days**	**Mon 06/30/03**	**Fri 03/25/05**

April: 03/17 | 03/24 | 03/31 | 04/07 | 04/14

ID	Task Name	Duration	Start	Finish	April 03/17	03/24	03/31	04/07	04/14
875	**P8 - Project Wind-up Activities**	5 days	Mon 03/28/05	Fri 04/01/05					

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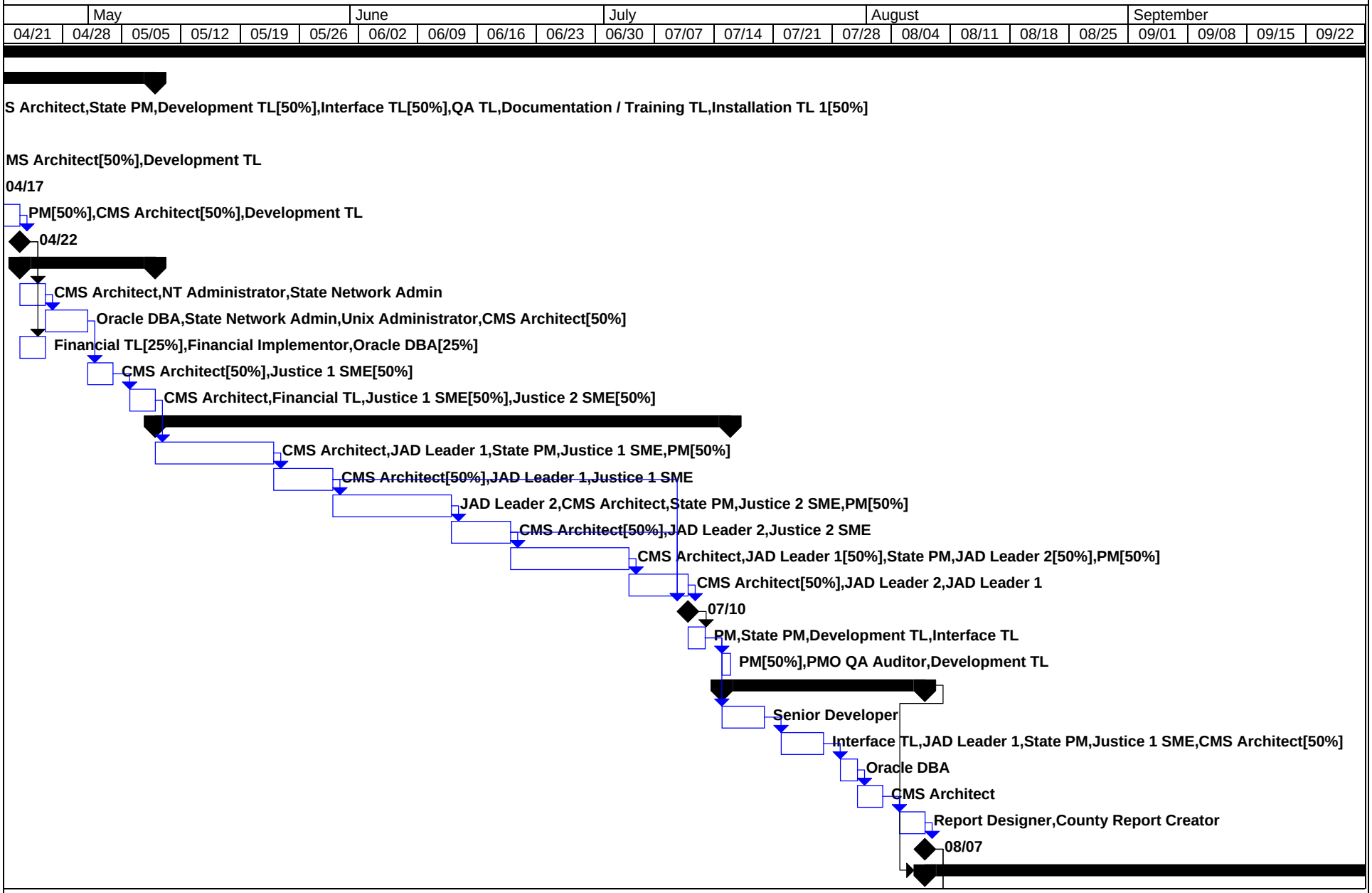
Case Management System Implementation



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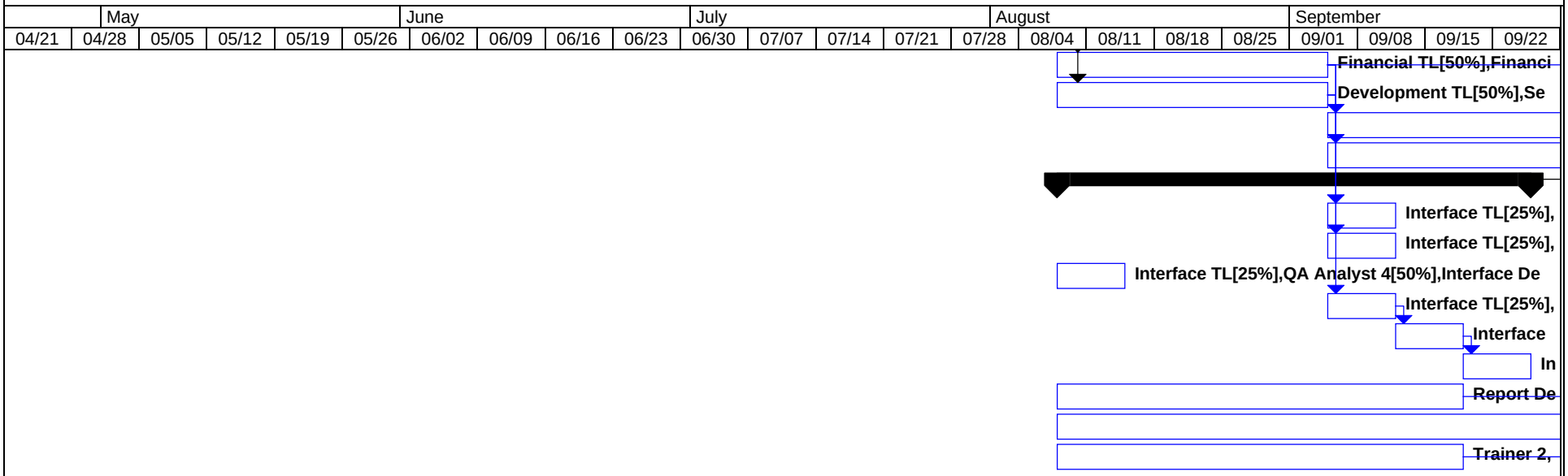

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Case Management System Implementation

	May					June				July					August				September			
04/21	04/28	05/05	05/12	05/19	05/26	06/02	06/09	06/16	06/23	06/30	07/07	07/14	07/21	07/28	08/04	08/11	08/18	08/25	09/01	09/08	09/15	09/22

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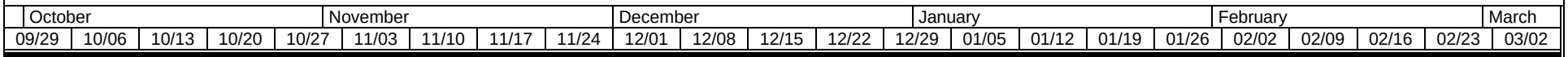
Case Management System Implementation



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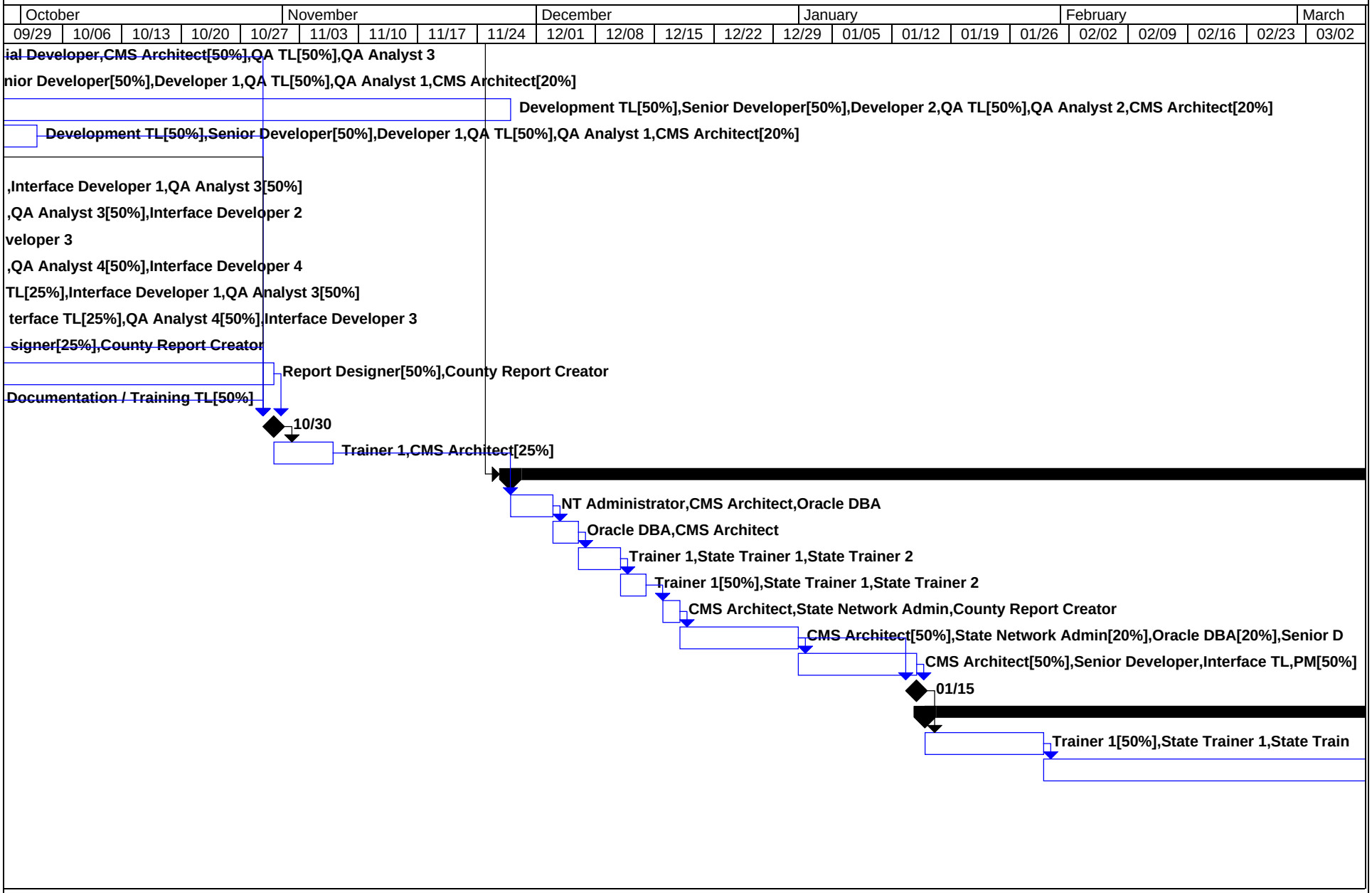
Case Management System Implementation



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Case Management System Implementation

October					November				December					January				February				March
09/29	10/06	10/13	10/20	10/27	11/03	11/10	11/17	11/24	12/01	12/08	12/15	12/22	12/29	01/05	01/12	01/19	01/26	02/02	02/09	02/16	02/23	03/02

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April							May					June				July					August	
03/09	03/16	03/23	03/30	04/06	04/13	04/20	04/27	05/04	05/11	05/18	05/25	06/01	06/08	06/15	06/22	06/29	07/06	07/13	07/20	07/27	08/03	08/10

State of Indiana
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April				May							June					July					August	
03/09	03/16	03/23	03/30	04/06	04/13	04/20	04/27	05/04	05/11	05/18	05/25	06/01	06/08	06/15	06/22	06/29	07/06	07/13	07/20	07/27	08/03	08/10

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	April						May					June				July					August	
03/09	03/16	03/23	03/30	04/06	04/13	04/20	04/27	05/04	05/11	05/18	05/25	06/01	06/08	06/15	06/22	06/29	07/06	07/13	07/20	07/27	08/03	08/10

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	September					October					November				December					January		
08/17	08/24	08/31	09/07	09/14	09/21	09/28	10/05	10/12	10/19	10/26	11/02	11/09	11/16	11/23	11/30	12/07	12/14	12/21	12/28	01/04	01/11	01/18

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	September					October					November				December					January		
08/17	08/24	08/31	09/07	09/14	09/21	09/28	10/05	10/12	10/19	10/26	11/02	11/09	11/16	11/23	11/30	12/07	12/14	12/21	12/28	01/04	01/11	01/18

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		September				October					November				December					January		
08/17	08/24	08/31	09/07	09/14	09/21	09/28	10/05	10/12	10/19	10/26	11/02	11/09	11/16	11/23	11/30	12/07	12/14	12/21	12/28	01/04	01/11	01/18

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	February				March					April				May				June				Jul
01/25	02/01	02/08	02/15	02/22	02/29	03/07	03/14	03/21	03/28	04/04	04/11	04/18	04/25	05/02	05/09	05/16	05/23	05/30	06/06	06/13	06/20	06/27

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	February				March					April				May				June				Jul
01/25	02/01	02/08	02/15	02/22	02/29	03/07	03/14	03/21	03/28	04/04	04/11	04/18	04/25	05/02	05/09	05/16	05/23	05/30	06/06	06/13	06/20	06/27

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	February				March					April				May				June				Jul
01/25	02/01	02/08	02/15	02/22	02/29	03/07	03/14	03/21	03/28	04/04	04/11	04/18	04/25	05/02	05/09	05/16	05/23	05/30	06/06	06/13	06/20	06/27

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	August							September					October				November					December
07/04	07/11	07/18	07/25	08/01	08/08	08/15	08/22	08/29	09/05	09/12	09/19	09/26	10/03	10/10	10/17	10/24	10/31	11/07	11/14	11/21	11/28	12/05

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				August				September					October				November					December
07/04	07/11	07/18	07/25	08/01	08/08	08/15	08/22	08/29	09/05	09/12	09/19	09/26	10/03	10/10	10/17	10/24	10/31	11/07	11/14	11/21	11/28	12/05

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				August				September					October				November					December
07/04	07/11	07/18	07/25	08/01	08/08	08/15	08/22	08/29	09/05	09/12	09/19	09/26	10/03	10/10	10/17	10/24	10/31	11/07	11/14	11/21	11/28	12/05

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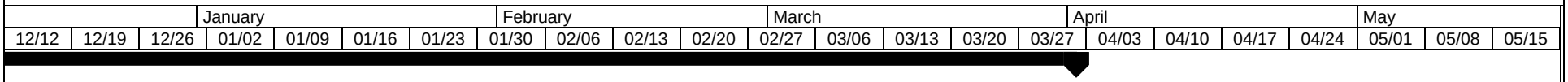
Case Management System Implementation



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	January					February					March					April				May		
12/12	12/19	12/26	01/02	01/09	01/16	01/23	01/30	02/06	02/13	02/20	02/27	03/06	03/13	03/20	03/27	04/03	04/10	04/17	04/24	05/01	05/08	05/15

State of Indiana
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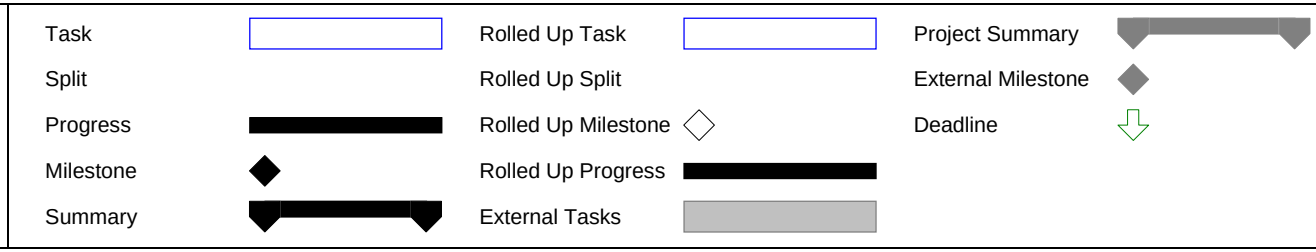
	January					February				March				April				May		
12/12	12/19	12/26	01/02	01/09	01/16	01/23	01/30	02/06	02/13	02/20	02/27	03/06	03/13	03/20	03/27	04/03	04/10	04/17	04/24	05/01	05/08	05/15
																PM,CMS Architect						



Project: VT SAO CMS
Date: Tue 01/22/02